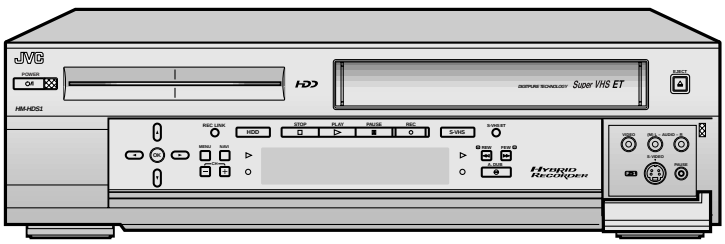
JVC

HDD / VHS DUAL RECORDER

HM-HDS1U



S-VHS
Hi-Fi
VCR Plus+ G3 CABLE BOX CONTROL
Super VHS ET

INSTRUCTIONS

For Customer Use:
Enter below the Model No. and Serial No. which are located on the rear of cabinet. Retain this information for future reference.

Model No. _____

Serial No. _____

LPT0585-001A

Dear Customer,
Thank you for purchasing the JVC VHS video cassette recorder. Before use, please read the safety information and precautions contained in the following pages to ensure safe use of your new recorder.

CAUTIONS

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

CAUTION:
This video cassette recorder should be used with AC 120V∿, 60Hz only.
To prevent electric shocks and fire hazards, DO NOT use any other power source.

CAUTION:
TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION:
POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

Note to CATV system installer:
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

CAUTION:
Changes or modifications not approved by JVC could void user's authority to operate the equipment.

Failure to heed the following precautions may result in damage to the recorder, remote control or video cassette.

1. **DO NOT place the recorder . . .**
   ... in an environment prone to extreme temperatures or humidity.
   ... in direct sunlight.
   ... in a dusty environment.
   ... in an environment where strong magnetic fields are generated.
   ... on a surface that is unstable or subject to vibration.
2. **DO NOT block the recorder's ventilation openings.**
3. **DO NOT place heavy objects on the recorder or remote control.**
4. **DO NOT place anything which might spill on top of the recorder or remote control.**
5. **AVOID violent shocks to the recorder during transport.**

**MOISTURE CONDENSATION
Moisture in the air will condense on the recorder when you move it from a cold place to a warm place, or under extremely humid conditions—just as water droplets form on the surface of a glass filled with cold liquid. Moisture condensation on the head drum will cause damage to the tape. In conditions where condensation may occur, keep the recorder's power turned on for a few hours to let the moisture dry before inserting a tape.

**ABOUT HEAD CLEANING
Accumulation of dirt and other particles on the video heads may cause the playback picture to become blurred or interrupted. Be sure to contact your nearest JVC dealer if such troubles occur.

VCR Plus+, C^3 and PlusCode are registered trademarks of Gemstar Development Corporation.
The VCR Plus+ system is manufactured under license from Gemstar Development Corporation.

DSS™ is an official trademark of DIRECTV, Inc., a unit of GM Hughes Electronics. PRIMESTAR is a registered service mark of Primestar Partners, L.P. DISH Network™ is a trademark of Echostar Communications Corporation.

- Cassettes marked "S-VHS" and "VHS" can be used with this recorder. However, S-VHS recordings are possible only with cassettes marked "S-VHS".
  By using S-VHS ET it is possible to record and play back with S-VHS picture quality on VHS cassettes with this recorder.

This product incorporates copyright protection technology that is protected by method claimes of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing users only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

IMPORTANT PRODUCT SAFETY INSTRUCTIONS

Electrical energy can perform many useful functions. But improper use can result in potential electrical shock or fire hazards. This product has been engineered and manufactured to assure your personal safety. In order not to defeat the built-in safeguards, observe the following basic rules for its installation, use and servicing.

ATTENTION:
Follow and obey all warnings and instructions marked on your product and its operating instructions. For your safety, please read all the safety and operating instructions before you operate this product and keep this booklet for future reference.

INSTALLATION

1. Grounding or Polarization

(A) Your product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature.
If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

(B) Your product may be equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature.
If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

2. Power Sources

Operate your product only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. If your product is intended to operate from battery power, or other sources, refer to the operating instructions.

3. Overloading

Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

4. Power Cord Protection

Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

5. Ventilation

Slots and openings in the cabinet are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered.

- Do not block the openings by placing the product on a bed, sofa, rug or other similar surface.
- Do not place the product in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

6. Wall or Ceiling Mounting

The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

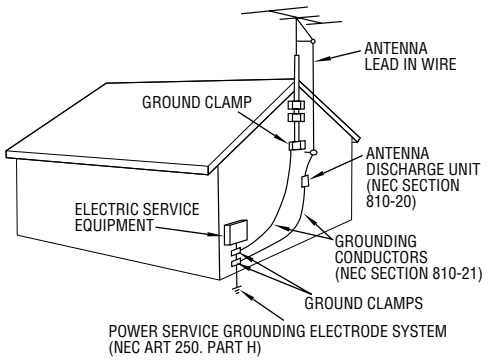
ANTENNA INSTALLATION INSTRUCTIONS

1. Outdoor Antenna Grounding
If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding connectors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

2. Lightning
For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

3. Power Lines
An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE, ANSI/NFPA 70



NEC – NATIONAL ELECTRICAL CODE

USE

1. Accessories
To avoid personal injury:
- Do not place this product on an unstable cart, stand, tripod, bracket, or table. It may fall, causing serious injury to a child or adult, and serious damage to the product.
- Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer or sold with the product.
- Use a mounting accessory recommended by the manufacturer and follow the manufacturer's instructions for any mounting of the product.
- Do not try to roll a cart with small casters across thresholds or deep-pile carpets.

2. Product and Cart Combination
A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

PORTABLE CART WARNING (Symbol provided by RETAC)

3. Water and Moisture
Do not use this product near water—for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool and the like.

4. Object and Liquid Entry
Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

5. Attachments
Do not use attachments not recommended by the manufacturer of this product as they may cause hazards.

6. Cleaning
Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

7. Heat
The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

SERVICING

1. Servicing
If your product is not operating correctly or exhibits a marked change in performance and you are unable to restore normal operation by following the detailed procedure in its operating instructions, do not attempt to service it yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

2. Damage Requiring Service
Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
a. When the power supply cord or plug is damaged.
b. If liquid has been spilled, or objects have fallen into the product.
c. If the product has been exposed to rain or water.
d. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
e. If the product has been dropped or damaged in any way.
f. When the product exhibits a distinct change in performance—this indicates a need for service.

3. Replacement Parts
When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

4. Safety Check
Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in safe operating condition.

HOW TO USE THIS INSTRUCTION MANUAL

- All major sections and subsections are listed in the Table Of Contents on page 7. Use this when searching for information on a specific procedure or feature.
- The Index on pages 90 – 94 lists frequently-used terms, and the number of the page on which they are used or explained in the manual. This section also illustrates the controls and connections on the front and rear panel, the front display panel and the remote control.
- The ☞ mark signals a reference to another page for instructions or related information.
- Operation buttons necessary for the various procedures are clearly indicated through the use of illustrations at the beginning of each major section.

BEFORE YOU INSTALL YOUR NEW RECORDER . . .

. . . please read the sections/literature listed below.
- "Cautions" on page 2
- "Important Product Safety Instructions" on the previous pages

PRECAUTION FOR Hard Disk Drive

1. Before installing the recorder

This recorder has a built-in hard disk drive, which is a device to read minute magnetic changes.
The inside of the device is precision-built, which, when installing the recorder, requires you to note the following:

- DO NOT use the recorder in a location prone to vibration or dust.
- DO NOT place the recorder where difference in temperatures is large (condensation can occur), or where humidity is high.
  – When condensation occurs
  Water droplets form on the hard disc or head drums inside, possibly causing hard disc and heads to be damaged.
  – About condensation
  When well-cooled beer is poured into a glass, water droplets often form around its outside. This phenom enon is called condensation.
- DO NOT install the recorder where the cooling fans in its back may be blocked, or where the recorder may be closed in.
- DO NOT use the recorder placed vertically.

2. Before using the recorder

When the power of the unit is on, the hard disc is constantly rotating at high speed.
This requires you to note the following:

- DO NOT impart vibration or shock.
  If given a heavy shock, not only is the data recorded damaged but also the hard disk itself can be damaged.
- DO NOT allow anything having strong magnetism or emitting strong electromagnetic waves (cell phones, etc.) near the recorder.
- DO NOT disconnect the power plug from the wall outlet when the power of the recorder is on.
  If the power supply is cut off while the hard disc is in operation, it can be damaged or the data stored on it may be damaged. Be sure to push the POWER button before turning off the power.

3. While using the recorder

When viewing a program by selecting HDD (Hard Disk Drive), there occurs a slight time lag relative to the actual program being broadcast. This is because pictures received are once stored on the hard disk, and then played back.

The time lag is about three seconds. If you turn the power on with the hard disk already selected, it will take about 30 seconds before the pictures received appear on the screen. Up until then, any operation is disabled. But it is not a malfunction.

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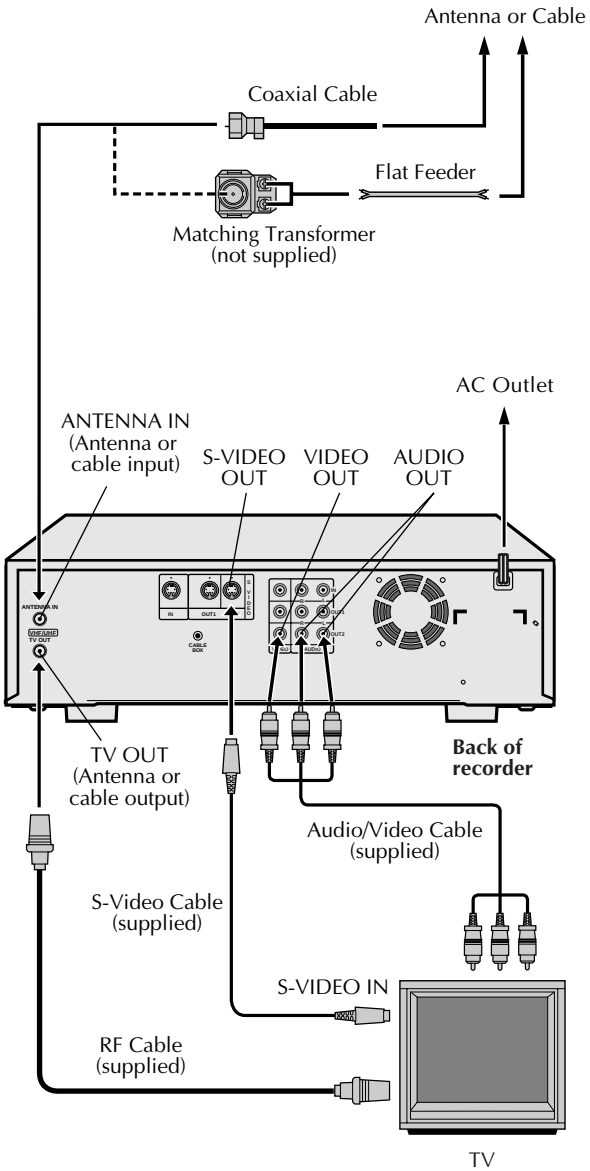
Connections



Basic Connections

1 CHECK CONTENTS

Make sure the package contains all of the accessories listed in "SPECIFICATIONS" (☞ pg. 95).

2 SITUATE RECORDER

Place the recorder on a stable, horizontal surface.

3 CONNECT RECORDER TO TV

The connection method you use depends on the type of TV you have.

a– Disconnect the TV antenna from the TV.
b– Connect the TV antenna cable to the ANT. IN jack on the rear of the recorder.
c– Connect the supplied RF cable between the TV OUT terminal on the rear of the recorder and the TV's antenna input terminal.
d– Connect the supplied Audio/Video Cable between the AUDIO OUT and VIDEO OUT jacks on the rear of the recorder and the AV IN jacks on the TV. Set your TV in video input mode or A/V input mode. Refer to the TV Instruction Manual.

S-VIDEO Connection

- *If you have a TV with S-VIDEO input terminals....*

e– Connect the supplied S-Video cable between the S-VIDEO OUT jack on the rear of the recorder and the S-VIDEO IN jack on the TV.

4 CONNECT RECORDER TO POWER SOURCE

Connect the AC power plug to an AC outlet.

- The clock and tuner channels will automatically be set when the antenna is connected and when the AC is first connected to the recorder (☞ pg. 9). (If "Auto" or "CH" is displayed on the front display panel before the recorder is powered on, the clock and tuner channels are being set automatically. Wait for the time to be displayed on the front display panel before powering on the recorder.)

5 FINAL PREPARATION FOR USE

Power on the recorder.
You can now perform simple playback (☞ pg. 24 for the HDD deck, pg. 34 for the VHS deck) or simple recording (☞ pg. 23 for the HDD deck, pg. 35 for the VHS deck).

NOTES:

- *For full identification of the recorder's rear panel, refer to the Index (REAR VIEW ☞ pg. 91).*
- *TV equipped with Audio and Video Inputs is required to operate the recorder.*
- *To make the most of the Super VHS picture performance we recommend that you use the supplied S-VIDEO cable to connect your recorder to a TV with an S-VIDEO input connector.*
- *To operate the recorder with your TV using the S-VIDEO connection, set your TV to the AV mode using the TV's remote control. You can also use the **TV/VCR** button on the recorder's remote control to set your TV to the AV mode. (☞ pg. 82)*

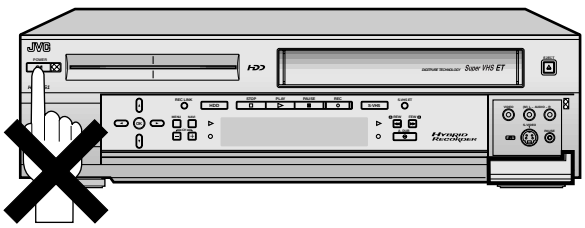
Plug & Play

Auto Clock Set/Auto Tuner Set

The Plug & Play function sets the clock and tuner channels automatically when power is first connected to the recorder. The antenna cable must be connected for the Plug & Play function.

The time and date can be set automatically from clock setting data that is transmitted by one of the regular TV broadcast channels. We call this TV channel the “Host Channel” and it is a PBS channel in your area.

ATTENTION
If you use a cable box, Plug & Play will not function; set the clock and tuner channels manually. (☞ pg.10 – 13)



IMPORTANT
- Don’t press any buttons on the recorder or remote while Plug & Play is in progress.
- If you perform Plug & Play successfully, there’s no need to perform the Clock (☞ pg. 10) and Tuner (☞ pg. 13) procedures. If, however, you want to add or delete channels, refer to “Add Or Delete A Channel” on page 14.

1 PLUG & PLAY SETUP

Connect the antenna cable to the recorder on the previous page. Then connect the recorder’s power plug to an AC outlet. Do not power on the recorder. The clock and tuner channels will be set automatically.

NOTES:

- *Auto clock set is performed first. The auto clock set function scans all the channels received by your recorder to find the Host Channel and then sets the clock. "Auto" blinks on the front display panel during Auto clock set.*
- *Auto channel set is performed next. The auto channel set function scans all the channels that are receivable by your recorder. It then automatically assigns each receivable channels to the **CH +/–** buttons. It skips non-receivable channels. During auto channel set the channel numbers are displayed as they are scanned and set.*
- *When Plug & Play has been completed successfully the correct time is displayed.*
- *If an incorrect time or “– –:– –” appears on the display panel, see “What To Do If Plug & Play Has Failed” below.*

During Initial Auto Clock Set
"Auto" blinks.

During Auto Channel Set
The channel numbers are displayed as they are scanned and set.

Plug & Play Completed
The current time (including AM/PM) is displayed.

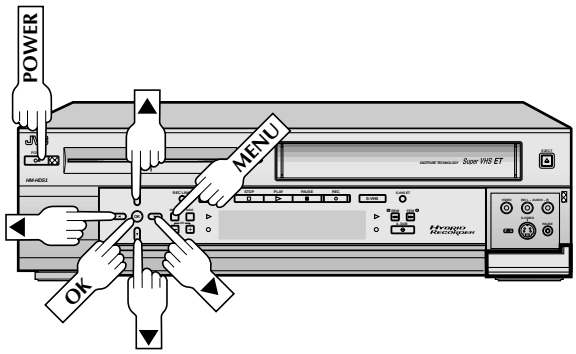
* If an incorrect time or “– –:– –” appears on the display panel, see “What To Do If Plug & Play Has Failed” below.

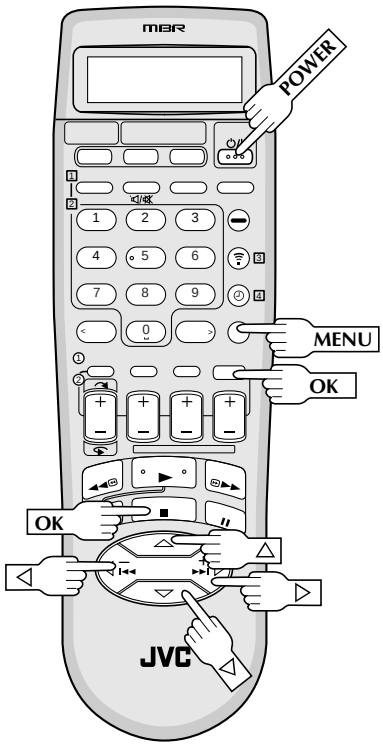
INFORMATION
- If “AUTO CLOCK” is set to “ON” at the Clock Set screen on page 11, the clock will be adjusted automatically by the host channel every hour on the hour (except for 11:00 PM, midnight, 1:00 AM and 2:00 AM) by the incoming PBS channel clock setting data. (This automatic clock adjustment can only be performed when the recorder’s power is turned off. The clock will be adjusted on the hour based on the time displayed on the recorder, not on the actual real time.) The default setting of “AUTO CLOCK” is “ON”.
- If the memory backup fails, because of a power outage or because the AC was removed from the recorder, Plug & Play will be performed when power is restored to the recorder.

What To Do If Plug & Play Has Failed
- If an incorrect time is displayed on the front display panel, you may be receiving the clock setting data of a PBS channel from an adjacent time zone, or an incorrect PBS channel from a cable TV system. In this case, perform the Semi-Auto (☞ pg. 11) or Manual Clock Set (☞ pg. 12) procedure. Auto channel set has already taken place and it need not be set again.
- If “- -:- -” appears on the display, your antenna cable may not be connected to the recorder or there may not be a Host PBS signal available in your area. Ensure that the antenna cable is connected correctly. Then power on and power off the recorder; the Plug & Play function will be automatically reactivated and “Auto” will be displayed on the recorder’s front panel. If Plug & Play is not performed but the antenna cable is connected correctly, perform the Manual Clock Set procedure (☞ pg. 12). Auto channel set has not yet taken place, so please also perform the “Set Receivable Channels” procedure (☞ pg. 13).

Clock

Turn on the TV and select the AV mode.





Perform clock setting only if the clock has not been set correctly by the Plug & Play function or you use a cable box. Access the Clock Set screen to perform the Semi-Auto or Manual clock setting procedure. Each procedure starts from step **5**.
If you use a cable box, set the clock manually. (☞ pg. 12)

Preparation

1 TURN ON THE RECORDER

Press **POWER**.

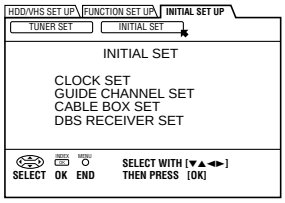
2 ACCESS MAIN MENU SCREEN

Press **MENU**.

- If you want to stop the following procedure on its way, press **MENU**.

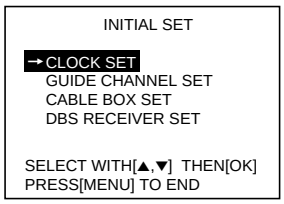
3 ACCESS INITIAL SET SCREEN

1) At the top of Main Menu screen, move the arrow to “INITIAL SET UP” by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.
2) At the Initial Set Up screen, move the arrow to “INITIAL SET” by pressing ◁▷ (or ◄►), then press **OK**.



4 ACCESS CLOCK SET SCREEN

At the Initial Set screen, move the arrow to “CLOCK SET” by pressing △▽ (or ▲▼), then press ▷ (or ►) or **OK**.



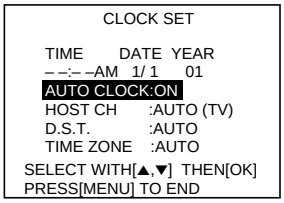
- “CABLE BOX USERS SET CLOCK MANUALLY” appears on the screen for about 5 seconds, then the Clock Set screen appears.

Semi-Auto

You can change the Host Channel/D.S.T. /Time Zone setting manually.

5 SET AUTO CLOCK TO ON

At the Clock Set screen, press ▷ (or ►) or **OK** repeatedly to move the highlighted bar to "AUTO CLOCK", then press △▽ (or ▲▼) to set to "ON".



a– To select the Host Channel — go to step **6**
b– To select the D.S.T. mode — go to step **7**
c– To select the Time Zone — go to step **8**

NOTE:

The time that has been set previously will be erased when "AUTO CLOCK", "HOST CH", "D.S.T." or "TIME ZONE" setting is changed.

6 SELECT HOST CHANNEL

You can either select "AUTO" or enter a PBS channel number.

Press ▷ (or ►) or **OK** repeatedly to move the highlighted bar to "HOST CH", then press △▽ (or ▲▼) to set to "AUTO" or the desired PBS channel number.

NOTE:

There are some PBS channels that do not transmit clock setting data.

7 SELECT D.S.T. MODE

You have three choices:

a– Select "AUTO" and the adjustment to your recorder's clock will be made according to the incoming signal from the host channel.
b– Select "ON" and the adjustment will be made based on the clock itself.
c– Select "OFF" if Daylight Saving Time does not apply to you.

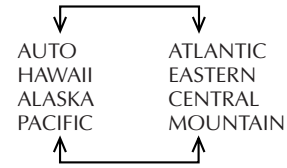
Press ▷ (or ►) or **OK** repeatedly to move the highlighted bar to "D.S.T." and press △▽ (or ▲▼) to select the desired mode.

****AUTO DAYLIGHT SAVING TIME**

This function enables automatic adjustment of the recorder's clock at the start and end of Daylight Saving Time.
With Auto DST activated, . . .
. . . on the first Sunday of April at 2:00 AM, the clock is adjusted to 3:00 AM.
. . . on the last Sunday of October at 2:00 AM, the clock is adjusted to 1:00 AM.

8 SELECT TIME ZONE

You can select the time zone automatically or manually. Press ▷ (or ►) or **OK** repeatedly to move the highlighted bar to "TIME ZONE", then press △▽ (or ▲▼) to select "AUTO" or the desired time zone.



NOTE:

*If an incorrect time is displayed by the Plug & Play function, you may be receiving the clock setting data of a PBS channel from an adjacent time zone or from an incorrect PBS channel from a cable TV system. If you selected "AUTO" for the host channel in step **6**, be sure to select the correct time zone manually.*

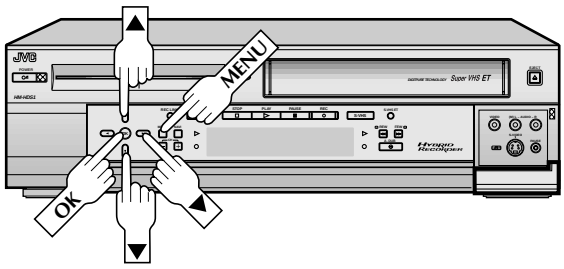
9 RETURN TO NORMAL SCREEN

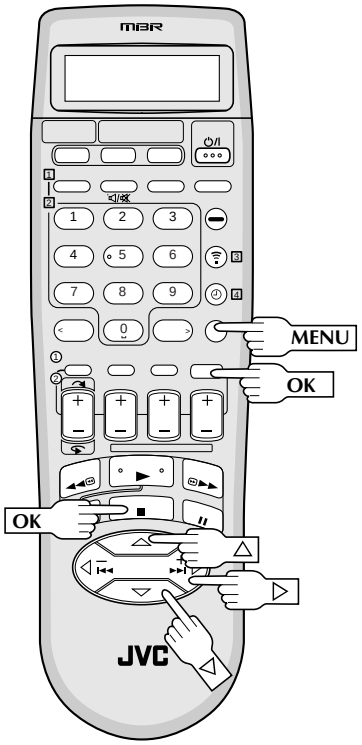
Press **MENU**. The Initial Set Up screen appears, then press **MENU** again.

IMPORTANT

Turn the recorder off after performing the Semi-Auto Clock Set procedure. "AUTO" will appear on the front display panel when the clock is being set. The current time will appear automatically when the clock is set.

CONTINUED ON NEXT PAGE

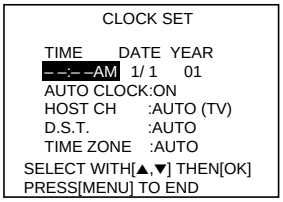




Manual

5 SET TIME

Press △▽ (or ▲▼) until the desired time appears, then press ▷ (or ►) or **OK**.



- Press and hold △▽ (or ▲▼) to change the time by 30-minute increments.
- When the time is entered manually, "AUTO CLOCK" will be automatically set to "OFF", and "HOST CH" and "TIME ZONE" will disappear.

6 SET DATE

Press △▽ (or ▲▼) until the desired date appears, then press ▷ (or ►) or **OK**.

- Press and hold △▽ (or ▲▼) to change the date by 15-day increments.

7 SET YEAR

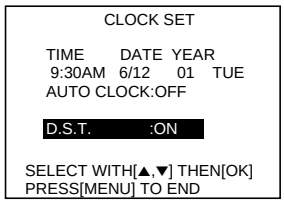
Press △▽ (or ▲▼) until the desired year appears, then press ▷ (or ►) or **OK** twice.

8 SELECT D.S.T. MODE

Press △▽ (or ▲▼) to select the desired mode.

a– Set to "ON" so that the adjustment to your recorder's clock will be made on the clock itself.

b– Set to "OFF" if Daylight Saving Time does not apply to you.



9 START CLOCK

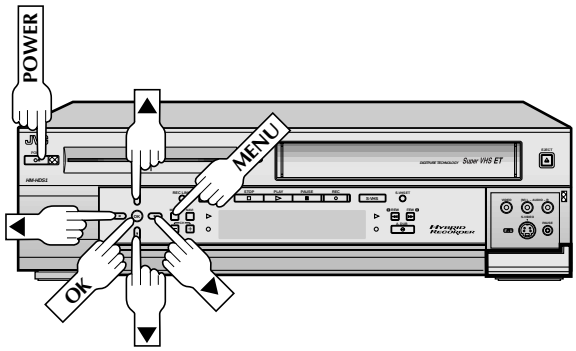
Press **MENU**. The Main Menu screen appears, then press **MENU** again.

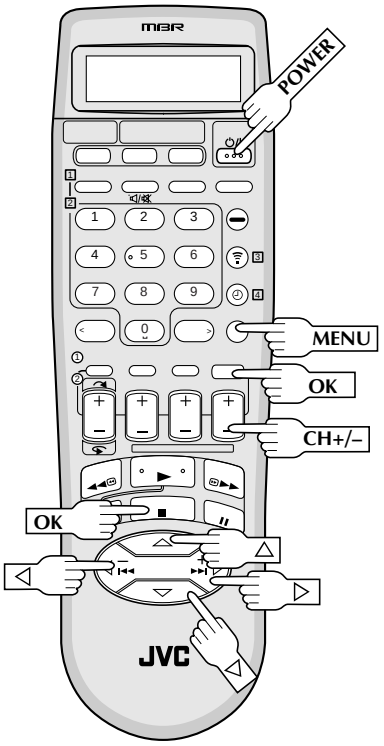
To Make Corrections

Press ▷ (or ►) or **OK** until the item you want to change blinks, then press △▽ (or ▲▼).

Tuner

Turn on the TV and select the AV mode.





INFORMATION

The recorder detects the band (TV or CATV) and selects the correct band automatically during Auto Channel Set.
The selected band will be displayed on the right side of "BAND" on the Tuner Set screen.

Set Receivable Channels

1 TURN ON THE RECORDER

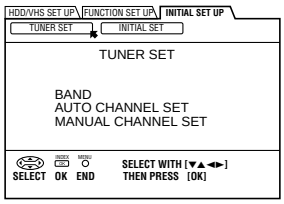
Press **POWER**.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

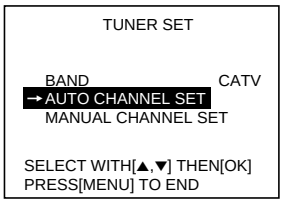
3 ACCESS TUNER SET SCREEN

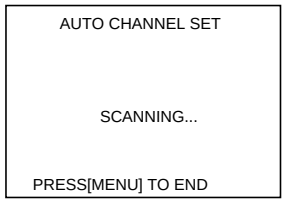
1) At the top of Main Menu screen, move the arrow to "INITIAL SET UP" by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.
2) At the Initial Set Up screen, move the arrow to "TUNER SET" by pressing ◁▷ (or ◄►), then press **OK**.



4 PERFORM AUTO CHANNEL SET

At the Tuner Set screen, move the arrow to "AUTO CHANNEL SET" by pressing △▽ (or ▲▼), then press ▷ (or ►) or **OK**.





- Receivable channels in your area are automatically assigned to the **CH +/–** buttons, and non-receivable channels are skipped.
- If you want to set the CATV channels, change the BAND mode into CATV by moving the arrow to "BAND" and pressing ▷ (or ►) or **OK**. The BAND mode alternates between TV and CATV by pressing ▷ (or ►) or **OK** when BAND is highlighted.

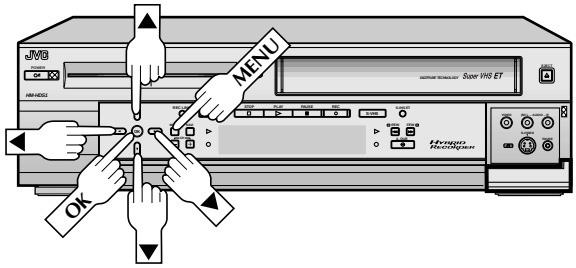
NOTES:

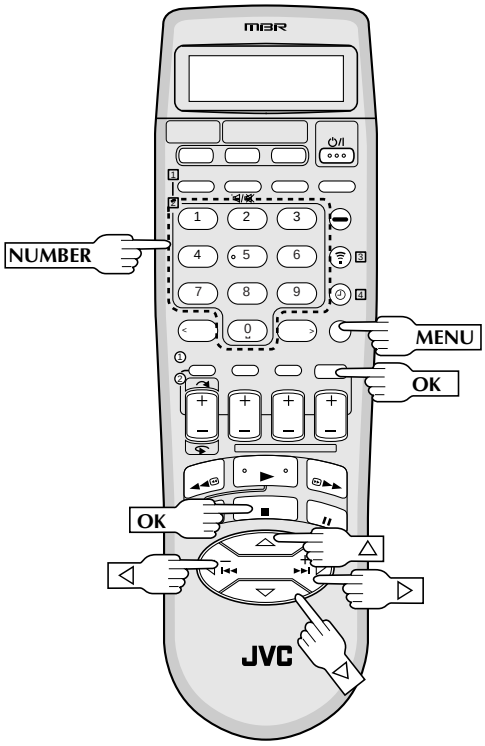
- *At the end of Auto Channel Set, "SCAN COMPLETED" appears on screen.*
- *If the scan was unsuccessful, "SCAN COMPLETED – NO SIGNAL –" appears on screen. Check the connections and start again.*

5 RETURN TO NORMAL SCREEN

Press **MENU**. The Initial Set Up screen appears, then press **MENU** again.

Add Or Delete A Channel



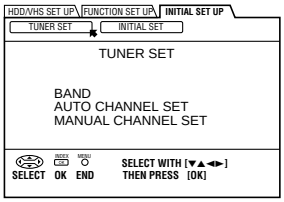


1 ACCESS MAIN MENU SCREEN

Press **MENU**.

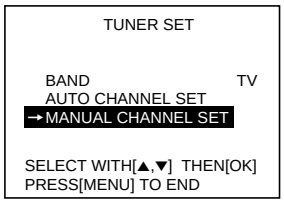
2 ACCESS TUNER SET SCREEN

1) At the top of Main Menu screen, move the arrow to "INITIAL SET UP" by pressing ◁▷ (or ◄►), press ▽ (or ▼) or **OK**.
2) At the Initial Set Up screen, move the arrow to "TUNER SET" by pressing ◁▷ (or ◄►), then press **OK**.



3 ACCESS MANUAL CHANNEL SET SCREEN

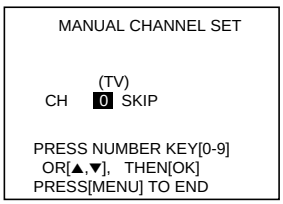
At the Tuner Set screen, move the arrow to "MANUAL CHANNEL SET" by pressing △▽ (or ▲▼), then press ▷ (or ►) or **OK**.



- If you want to set the CATV channels, change the BAND mode into CATV by moving the arrow to "BAND" and pressing ▷ (or ►) or **OK**. The BAND mode alternates between TV and CATV by pressing ▷ (or ►) or **OK** when BAND is highlighted.

4 ADD OR SKIP DESIRED CHANNEL

Input the channel number using the **NUMBER** keys or select "L-1" or "F-1" by pressing △▽ (or ▲▼), then press **OK** to set to "SKIP". Repeat for each channel you want to skip. Input the channel number using the **NUMBER** keys, then press **OK** to set to "ADD" the channel.



5 RETURN TO NORMAL SCREEN

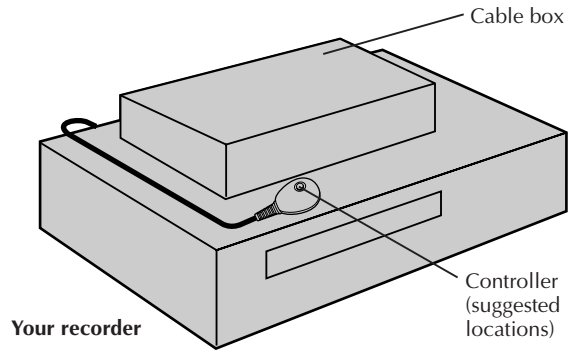
Press **MENU**. The Initial Set Up screen appears, then press **MENU** again.

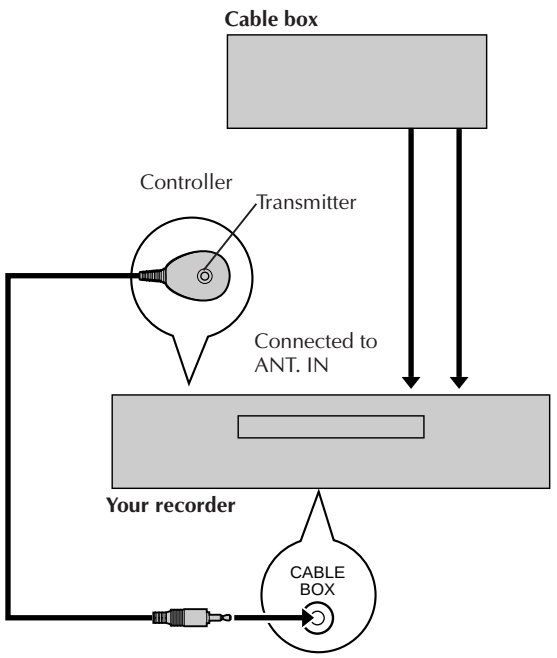
Cable Box Control

Suggested Location
Place the cable box on top of the recorder. Attach the recorder's Controller to the top of the recorder with the Controller's transmitter pointed towards the cable box's remote sensor.

ATTENTION:

The Controller can also control a DBS receiver. If both a cable box and a DBS receiver are used, position the controller so its signal reaches the remote control sensors of both the cable box and DBS receiver.





This procedure is required if you receive your TV channels through a cable box (descrambler). The Controller allows the recorder to automatically switch the cable box channel during timer-recording. The Controller is effective for recording shows that have been programmed using the VCR Plus+ system (☞ pg. 54) or Express Timer Programming (☞ pg. 58).

Situate And Connect Controller

1 SITUATE CONTROLLER

Place the Controller so that the path between its transmitter and the cable box's remote sensor is unobstructed.

2 ATTACH CONTROLLER

Fasten securely using the supplied adhesive strip.

3 CONNECT CABLE BOX TO RECORDER

The connection method depends on the type of cable box you have.

If your cable box has AUDIO and VIDEO OUT connectors . . .
. . . connect them to the AUDIO and VIDEO IN connectors on your recorder. Set the recorder to channel "L-1" for the rear AUDIO and VIDEO IN connectors to use the cable box.

If your cable box doesn't have AUDIO and VIDEO OUT connectors . . .
. . . connect the antenna output connector on the cable box to the ANTENNA IN connector on the rear of your recorder.
Set the recorder tuner to the same channel as the cable box RF output (see page 16 also).

NOTE:
When connecting your cable box refer to its instruction manual.

4 CONNECT CONTROLLER TO RECORDER

Connect to the CABLE BOX connector on your recorder.

About Your Cable Box

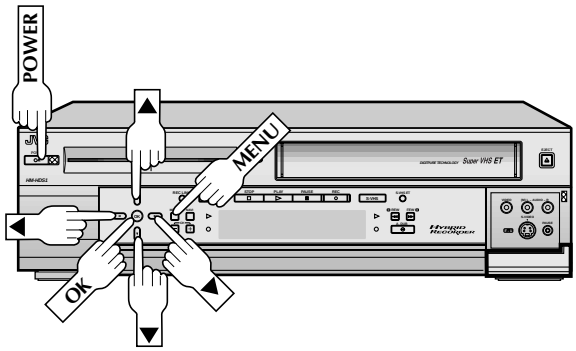
This recorder has two separate methods to control your Cable Box.

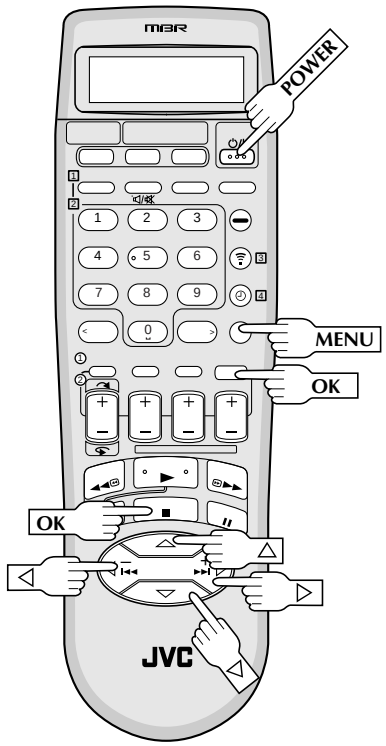
- *The recorder's Wireless Remote Control Unit can control your Cable Box.*
  This eliminates the need for a separate Cable Box Remote Control Unit.
- *The recorder's Controller can also control your Cable Box.*
  This allows the recorder to change your Cable Box's channel number during timer recording.

Each method must be set up separately. To set up the recorder's Remote Control unit, refer to page 83. To set up the Controller go to page 16.

CONTINUED ON NEXT PAGE

Turn on the TV and select the AV mode.





Set Cable Box Output Channel & Cable Box Brand

1 TURN ON CABLE BOX

Select a channel other than channel 9 on your cable box.

2 TURN ON THE RECORDER

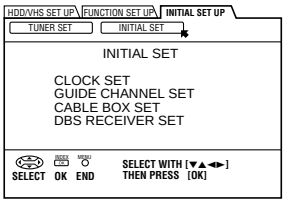
Press **POWER**.

3 ACCESS MAIN MENU SCREEN

Press **MENU**.

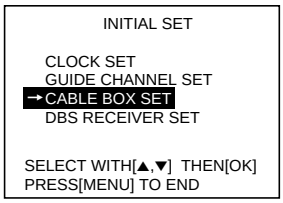
4 ACCESS INITIAL SET SCREEN

1) At the top of Main Menu screen, move the arrow to "INITIAL SET UP" by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.
2) At the Initial Set Up screen, move the arrow to "INITIAL SET" by pressing ◁▷ (or ◄►), then press **OK**.



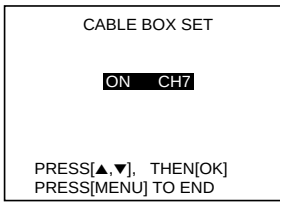
5 ACCESS CABLE BOX SET SCREEN

Press △▽ (or ▲▼) to move the arrow to "CABLE BOX SET", then press ▷ (or ►) or **OK**.



6 SELECT CABLE BOX OUTPUT CHANNEL

If your cable box is connected to your recorder using an RF connection, press △▽ (or ▲▼) until the channel number representing the cable box's output (CH2 – CH9) appears on the screen.



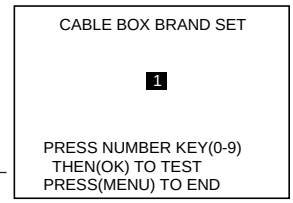
If your cable box is connected to your recorder's REAR or FRONT AUDIO/VIDEO IN connectors, press △▽ (or ▲▼) until "ON L-1 REAR" or "ON F-1 FRONT" appears on the screen.

7 ACCESS CABLE BOX BRAND SET SCREEN

Press ▷ (or ►) or **OK.**

8 ENTER CABLE BOX BRAND

Press the appropriate **NUMBER** keys to enter the Cable Box Code from the CABLE BOX BRAND LIST shown below, then press ▷ (or ►) or **OK**.



- If the cable box's channel changes to 9, setting is complete. Press ▷ (or ►) or **OK** and "CABLE BOX CONTROL IS ON" appears on the screen for about 5 seconds, then the Initial Set Up screen appears. To returns to the normal screen, press **MENU**.
- If the cable box's channel does not change to 9, press △▽ (or ▲▼) to select "NO", then press ▷ (or ►) or **OK**. By entering another code, repeat step **8** until the cable box's channel changes to 9.
- If the channel does not change after going through all the code numbers listed for your model of cable box, then try all the other numbers between 1 and 25.

CABLE BOX BRAND LIST

BRAND	CODE
ARCHER	1, 5, 17
CABLETENNA	1, 17
CABLEVIEW	15, 16, 17, 21, 25
CITIZEN	15, 16, 17, 21, 25
CURTIS	2, 8
DIAMOND	1, 17
EASTERN	19
GC BRAND	15, 16, 17, 21, 25
GEMINI	15
GENERAL INSTRUMENTS	1, 4, 6, 11, 12, 15
HAMLIN	10, 18, 19, 23
JASCO	15
JERROLD	1, 4, 6, 11, 12, 15
NOVAVISION	2, 8
OAK	7, 20
PANASONIC	13, 14
PULSER	15, 16, 17, 21, 25
RCA	13, 14
REGAL	10, 18, 19, 23
REGENCY	19
REMBRANDT	1, 16, 17
SAMSUNG	5, 16, 24
SCIENTIFIC ATLANTA	2, 8
SIGMA	7, 20
SL MARX	5, 16, 17, 24, 25
SPRUCER	13, 14
STARGATE	5, 15, 16, 17, 21, 24, 25
TELEVIEW	5, 16, 24
TOCOM	1, 4, 16
UNIKA	1, 17
UNIVERSAL	16, 17, 25
VIDEOWAY	3, 9, 22
ZENITH	3, 9, 22

INFORMATION

When the recorder's clock has not been set (with AUTO CLOCK set to ON), if you press **OK** in step **7**, "CABLE BOX USERS SET CLOCK MANUALLY" will be displayed on the screen for about 5 seconds, then the Clock Set screen will appear; perform the manual clock setting procedure on page 12. If you press **MENU** after the clock has been set, the Cable Box Brand Set screen appears.

NOTES:

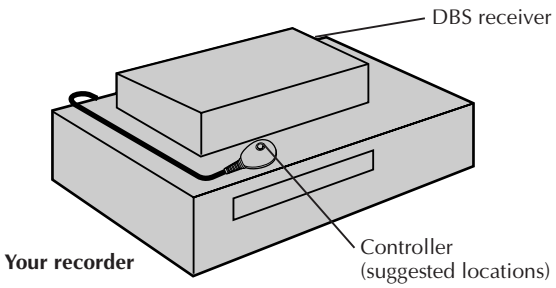
- *Although the supplied Controller is compatible with many different cable box brands, it is possible that it will not work with your cable box.*
- *If your cable box doesn't respond to any code between 1 and 25, you can't use the Controller to change cable box channels. In this case, make sure to leave the cable box turned on and tuned to the proper channel before the scheduled start of timer recording.*
  Please contact your cable company about the possibility of exchanging your current cable box with one that is compatible with your recorder.
- *The recorder can only change the cable box channel through the Controller during timer recording.*
- *If your cable box is one that can't be operated with a remote control (because it has no remote sensor), you can't use the Controller to change its channels. Make sure to leave the cable box turned on and tuned to the proper channel before the scheduled start of timer recording.*
- *If the recorder's memory backup expires because of a power failure, set the cable box output channel and brand again.*
- *If you are unable to set the Controller, please contact JVC toll free at 1-800-252-5722.*

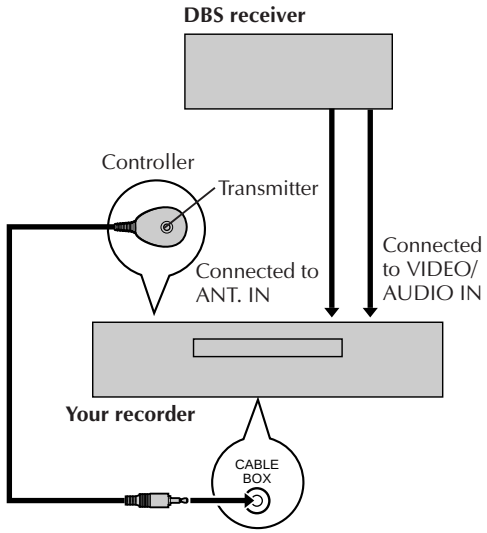
DBS Receiver Control

Suggested Location
Place the DBS (Direct Broadcast Satellite) receiver on top of the recorder. Attach the recorder's Controller to the top of the recorder with the Controller's transmitter pointed towards the DBS receiver's remote sensor.

ATTENTION:

The Controller can also control a cable box. If both a DBS receiver and a cable box are used, position the controller so its signal reaches the remote control sensors of both the DBS receiver and cable box.





About Your DBS Receiver

This recorder has two separate methods to control your DBS Receiver.

- *The recorder's Wireless Remote Control Unit can control the power and channel functions of your DBS Receiver. For these functions, the need for a separate DBS Receiver Control Unit is eliminated.*
- *The recorder's Controller can also control your DBS Receiver. This allows the recorder to change your DBS receiver's channel number during timer recording.*

Each method must be set up separately. To set up the recorder's Remote Control unit, refer to page 84. To set up the Controller go to page 19.

The following procedure is required if you receive satellite channels through a DBS (Direct Broadcast Satellite) Receiver. The Controller allows the recorder to automatically switch the DBS Receiver's channels during timer recording.

NOTES:

- *The recorder can automatically change the DBS Receiver channels using the controller when the recorder has been programmed using Express Timer Programming (☞ pg. 58). Because satellite programming does not use PlusCode; the Controller cannot change the DBS Receiver channels during the VCR Plus+ Timer Recording.*
- *If a cable box is also used it is recommended that you connect the DBS receiver to your recorder's A/V inputs and the cable box to your recorder's antenna input.*

Situate And Connect Controller

1 SITUATE CONTROLLER

Place the Controller so that the path between its transmitter and the DBS receiver's remote sensor is unobstructed.

2 ATTACH CONTROLLER

Fasten securely using the supplied adhesive strips.

3 CONNECT DBS RECEIVER TO RECORDER

The connection method depends on the type of DBS receiver you have.

If your DBS receiver has AUDIO and VIDEO OUT connectors . . .
. . . connect them to the AUDIO and VIDEO IN connectors on your recorder. Set the recorder to channel "L-1" for the rear AUDIO and VIDEO IN connectors to use the DBS receiver.
If your DBS receiver doesn't have AUDIO and VIDEO OUT connectors . . .
. . . connect the antenna output connector on the DBS receiver to the ANT. IN connector on the rear of your recorder.
Set the recorder's tuner to the same channel as the DBS receiver's RF output. (See page 19 also.)

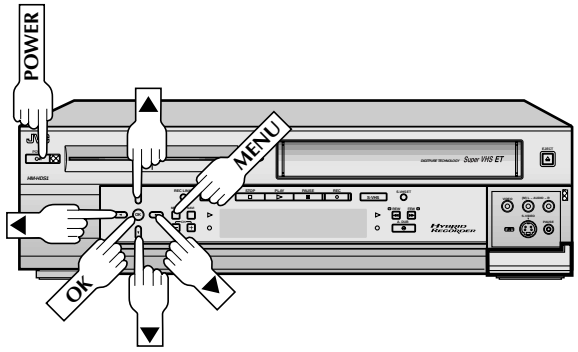
NOTE:

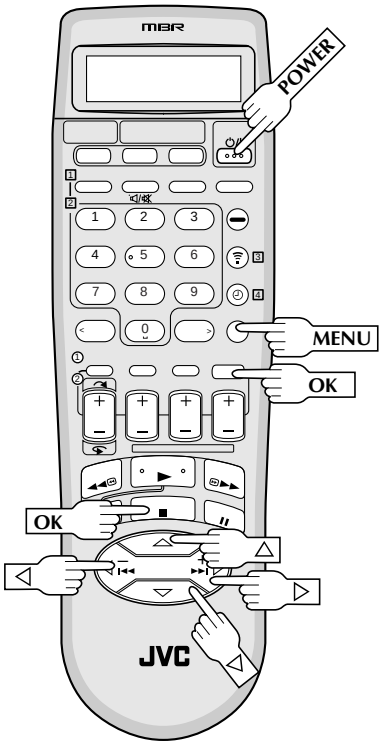
When connecting your DBS receiver refer to its instruction manual.

4 CONNECT CONTROLLER TO RECORDER

Connect to the CABLE BOX connector on your recorder.

Turn on the TV and select the AV mode.





Set DBS Receiver Output Channel & DBS Receiver Brand

1 TURN ON DBS RECEIVER

Select a channel other than channel 55, 100 or 205 on your DBS receiver.

2 TURN ON THE RECORDER

Press **POWER**.

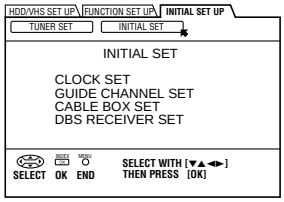
- Set the recorder to the channel (3 or 4 or L-1 or F-1) on which the signals from the DBS receiver are received.

3 ACCESS MAIN MENU SCREEN

Press **MENU**.

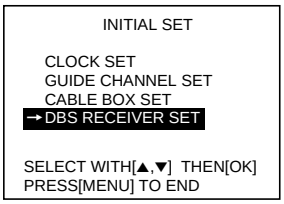
4 ACCESS INITIAL SET SCREEN

1) At the top of Main Menu screen, move the arrow to "INITIAL SET UP" by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.
2) At the Initial Set Up screen, move the arrow to "INITIAL SET" by pressing ◁▷ (or ◄►), then press **OK**.



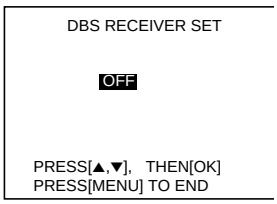
5 ACCESS DBS RECEIVER SET SCREEN

At the Initial Set screen, move the arrow to "DBS RECEIVER SET" by pressing △▽ (or ▲▼), then press ▷ (or ►) or **OK**.



6 SELECT DBS RECEIVER OUTPUT CHANNEL

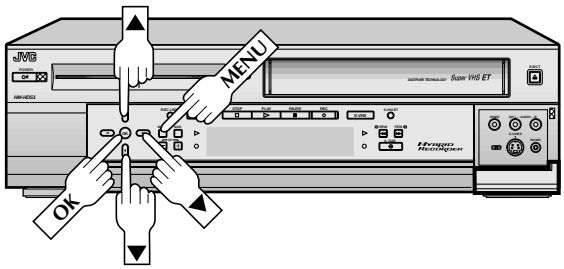
If your DBS receiver is connected to your recorder using an RF connection, press △▽ (or ▲▼) until the channel number representing the DBS receiver's output (CH3 – CH4) appears on the screen.

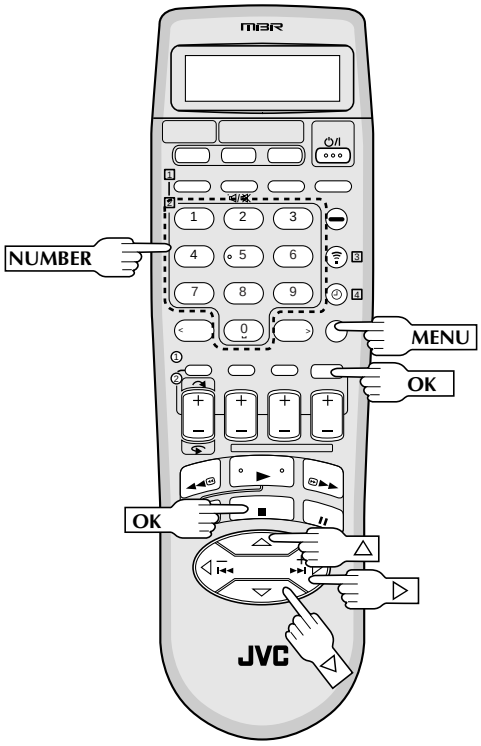


If your DBS receiver is connected to your recorder's REAR or FRONT AUDIO/VIDEO IN connectors, press △▽ (or ▲▼) until "ON L-1 REAR" or "ON F-1 FRONT" appears on the screen.

CONTINUED ON NEXT PAGE

Turn on the TV and select the AV mode.



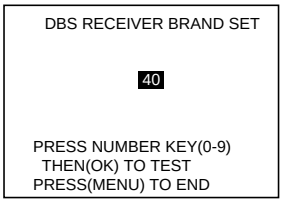


7 ACCESS DBS RECEIVER BRAND SET SCREEN

Press ▷ (or ►) or **OK**.

8 SET DBS RECEIVER BRAND

Press the appropriate **NUMBER** keys to enter the DBS Receiver Code from the following list, then press ▷ (or ►) or **OK**.



BRAND	CODE
JVC (DISH Network)	51
ECHOSTAR (DISH Network)	51
PRIMESTAR	50
SONY (DSS)	41
RCA (DSS)	40

- After **OK** is pressed, the program currently received through the DBS receiver will appear for about 10 seconds.
- If the DBS receiver's channel changes to the channel listed below for your brand of DBS receiver, setting is complete. Press **OK** and "DBS RECEIVER CONTROL IS ON" appears on the screen for about 5 seconds, then it returns to the Initial Set Up screen. To returns to the normal screen, press **MENU**.

  JVC → 100
  ECHOSTAR → 100
  PRIMESTAR → 55
  SONY → 205
  RCA → 205

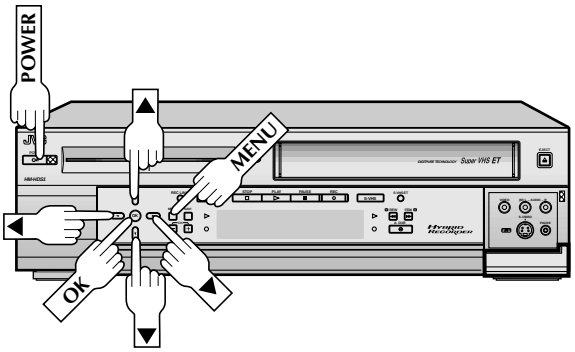
- If the DBS receiver's channel does not change as shown above, press △▽ (or ▲▼) repeatedly until "NO" appears, then press **OK**. Re-enter the correct code.

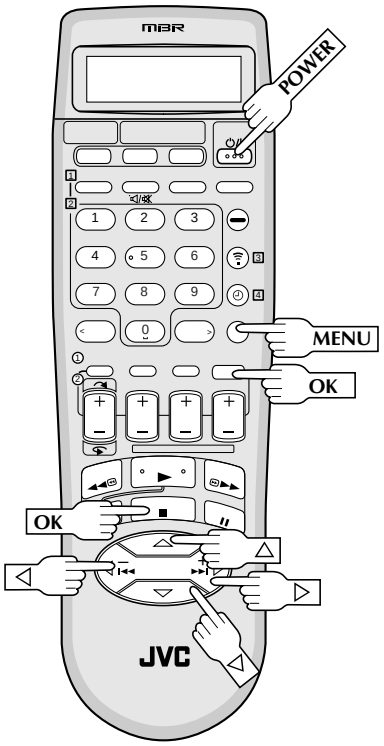
NOTES:

- *It is possible that the Controller will not work with all types of DBS receiver.*
- *If your DBS receiver doesn't respond to the code, you can't use the Controller to change satellite channels. In this case, make sure to leave the DBS receiver turned on and tuned to the proper channel before the scheduled start of timer recording.*
- *The recorder can only change the satellite channel through the Controller during timer recording.*
- *If your DBS receiver is one that can't be operated with a remote control (because it has no remote sensor), you can't use the Controller to change its channels. Make sure to leave the DBS receiver turned on and tuned to the proper channel before the scheduled start of timer recording.*
- *If you are unable to set the Controller, please contact JVC toll free at 1-800-252-5722.*

Setting Blue Back

Turn on the TV and select the AV mode.





The recorder changes the screen into the Blue Back screen automatically after/while the input signals do not come into.

1 TURN ON THE RECORDER

Press **POWER**.

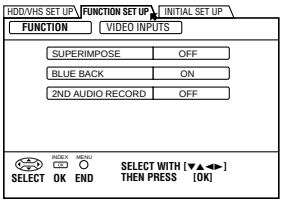
2 ACCESS MAIN MENU SCREEN

Press **MENU**.

- If you want to stop the following procedure on its way, press **MENU**.

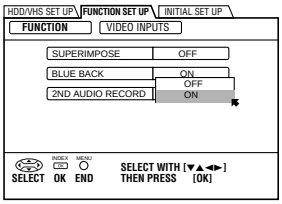
3 ACCESS FUNCTION SCREEN

1) At the top of Main Menu screen, move the arrow to "FUNCTION SET UP" by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.
2) On the Function Set Up screen, move the arrow to "FUNCTION" by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.



4 SELECT BLUE BACK MODE

1) On the Function screen, move the arrow to "BLUE BACK" by pressing △▽ (or ▲▼), then press **OK**.
2) Press △▽ (or ▲▼) to select the desired mode, then press **OK**.



a– Select "OFF" if you do not want to use the Blue Back screen.

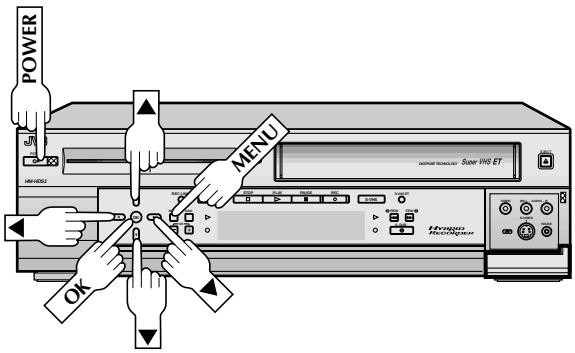
b– Select "ON" if you want to use the Blue Back screen.

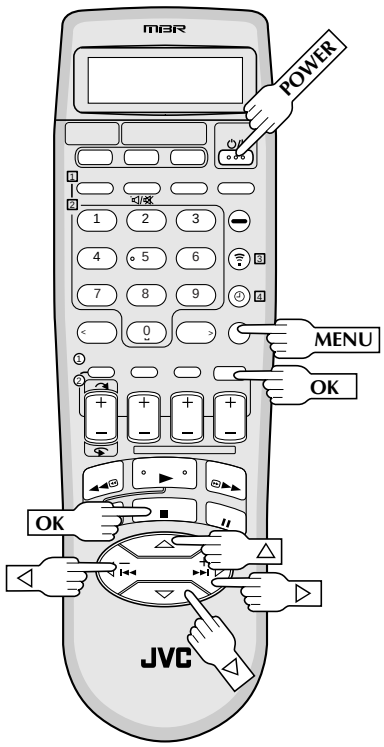
5 RETURN TO NORMAL SCREEN

Press **MENU**.

Setting Video Inputs Mode

Turn on the TV and select the AV mode.





You can change the video inputs mode.

1 TURN ON THE RECORDER

Press **POWER**.

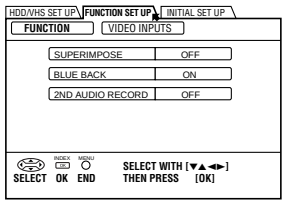
2 ACCESS MAIN MENU SCREEN

Press **MENU**.

- If you want to stop the following procedure on its way, press **MENU**.

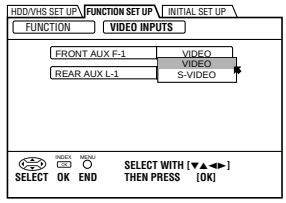
3 ACCESS VIDEO INPUTS SCREEN

1) At the top of Main Menu screen, move the arrow to “FUNCTION SET UP” by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.
2) On the Function Set Up screen, move the arrow to “VIDEO INPUTS” by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.



4 SELECT VIDEO INPUTS MODE

1) On the Function screen, move the arrow to “FRONT AUX F-1” or “REAR AUX L-1” by pressing △▽ (or ▲▼), then press **OK**.
2) Press △▽ (or ▲▼) to select the desired mode, then press **OK**.



a– Select “VIDEO” if you use VIDEO IN jacks for connecting the external equipment.

b– Select “S-VIDEO” if you use S VIDEO IN jacks for connecting the external equipment.

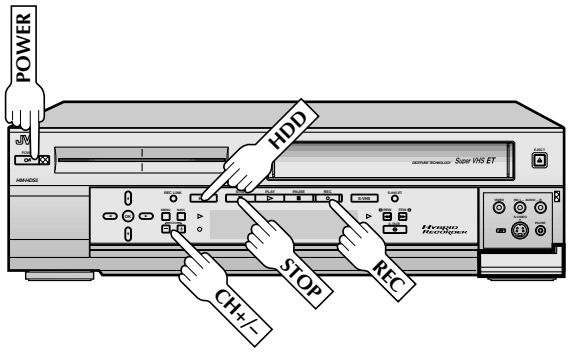
5 RETURN TO NORMAL SCREEN

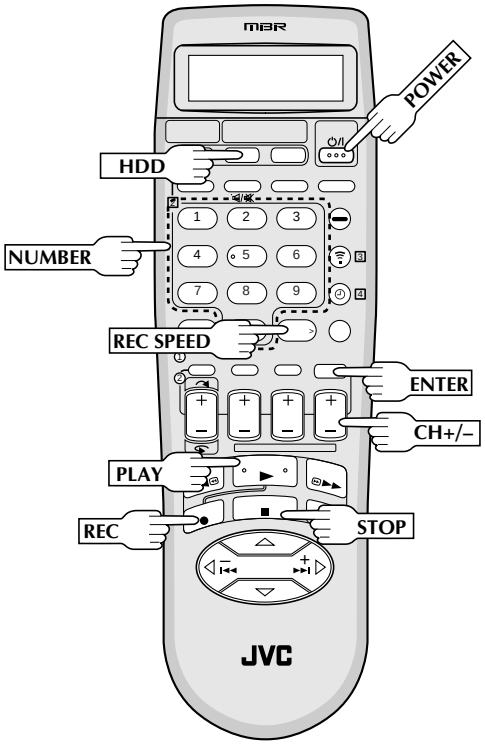
Press **MENU**.

Simple Recording

Turn on the TV and select the AV mode.

If the recorder is turned on with HDD deck selected, there may be about 30 seconds' delay in starting to show pictures on the screen.





1 TURN ON THE RECORDER

Press **POWER**. The button corresponding to the previously selected deck lights.

2 SELECT HDD DECK

Press **HDD**. The **HDD** button lights on the front panel.

3 SELECT RECORDING CHANNEL

Press **CH +/–**. Or press the appropriate **NUMBER** keys, then press **ENTER**. (The channel changes after a few seconds whether you press **ENTER** or not.)

When you switch channels on the HDD deck, the pictures appears a few seconds behind. It is not a malfunction.

4 SET RECORDING SPEED

Press **REC SPEED** to set the recording speed.

- For details on the recording speed, see the next page.

5 START RECORDING

Press and hold **REC** and press **PLAY** on the remote control, or press **REC** on the front panel. The HDD recording indicator lights.

6 STOP RECORDING

Press **STOP**. The HDD recording indicator turns off.

There may be a few seconds' delay in resuming normal screen. It is not a malfunction.

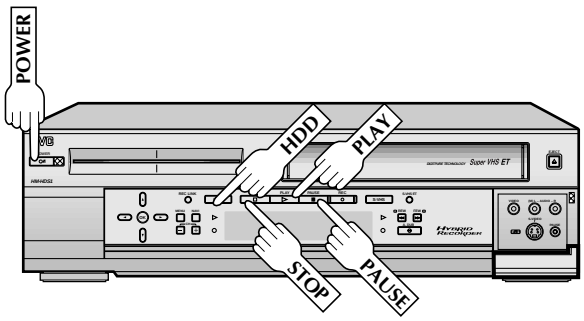
NOTES:

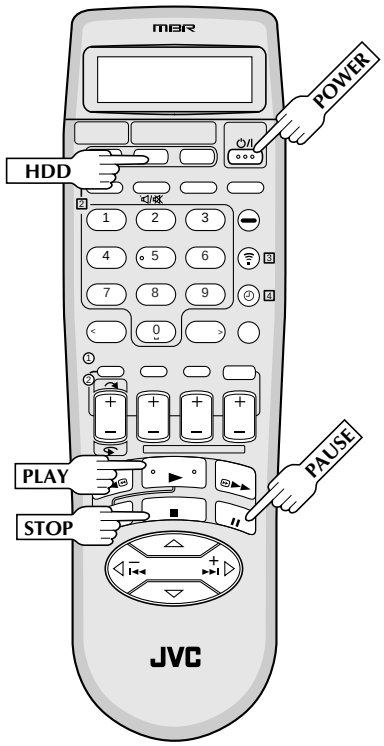
- *It is not possible to record a TV program on both the HDD deck and the VHS deck simultaneously.*
  In addition, it is not possible to record simultaneously from the same external input.
- *It is not possible to pause recording on the HDD deck while recording from the channels other than "L-1", "F-1", "DUB".*
  See also pages 73 and 77.

Simple Playback

Turn on the TV and select the AV mode.

If the recorder is turned on with HDD deck selected, there may be about 30 seconds' delay in starting to show pictures on the screen.





1 TURN ON THE RECORDER

Press **POWER**. The button corresponding to the previously selected deck lights on the front panel.

2 SELECT HDD DECK

Press **HDD**. The **HDD** button lights on the front panel.

3 START PLAYBACK

Press **PLAY**. The HDD playback indicator lights on the front panel.
One of the following screens will appear:
– the program which has been recorded on the HDD deck at the last and has not been played back yet
– the program which has been stopped during playback
– the HDD Navigation screen (See the next page.)

- There are some programs for demonstration on the HDD deck when it is shipped from the factory.

4 PAUSE PLAYBACK

Press **PAUSE**.

- To resume normal playback, press **PLAY**.

5 STOP PLAYBACK

Press **STOP**. The HDD playback indicator turns off.

Recording Speed on the HDD deck

This recorder has a 40 Gbyte hard disk drive. The pictures and sounds recorded on the HDD deck and other information are written down on the hard disk drive.

As recording format for the HDD deck, MPEG2 format, the same for DVD, is used. As a guide for picture quality, the “bps” unit is used to represent how much data can be recorded per second. The larger this value, the better the picture quality is but the more capacity is required for recording. Select SP for programs where quick movement occurs, such as sports programs, and SEP for talk shows, etc. where relativity less movement.

The recording speeds of the recorder are set as follows:

Recording speed	Recording amount	Maximum recording time
SP	about 6.4 Mbps	about 14 hours
LP	about 4.5 Mbps	about 20 hours
EP	about 3.2 Mbps	about 28 hours
SEP	about 2.2 Mbps	about 40 hours

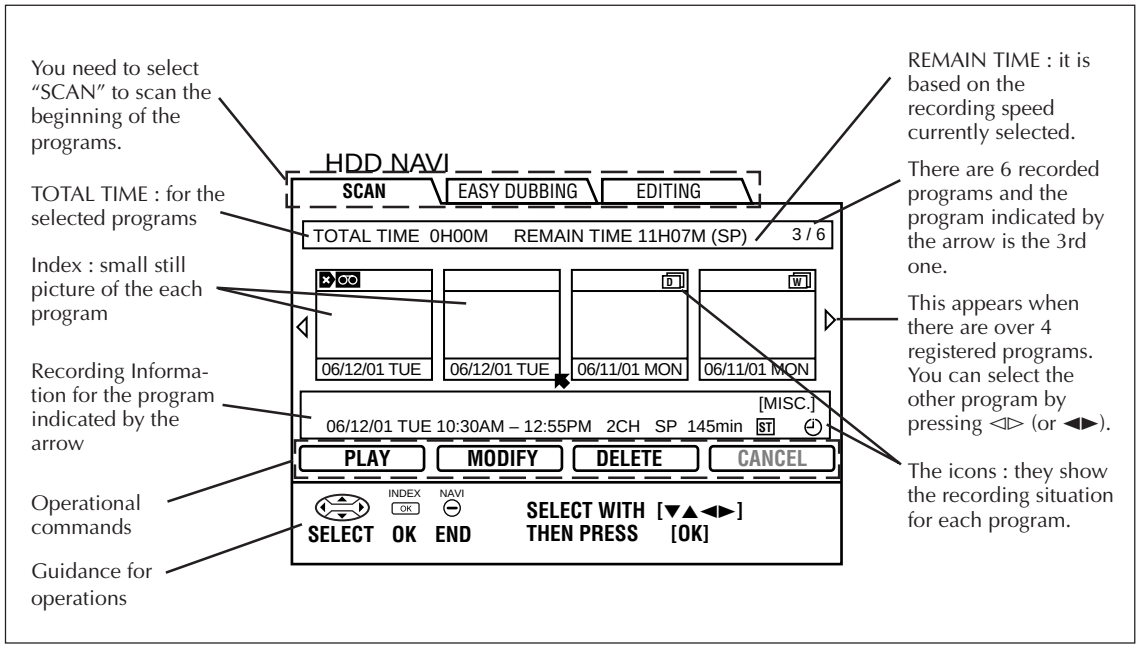
Playback with HDD Navigation

The HDD Navigation enables you to seach and select the desired programs recorded on the HDD deck very easily.

There is a 40 Gbyte hard disk drive on this recorder. You can record up to 60 programs for the HDD deck.
Each time a program is recorded on the HDD deck, the information of the program are registered in the HDD Navigation automatically.

So, you can confirm the information of the programs recorded on the HDD with the HDD Navigation Screen. And, you can also select one of the programs recorded on the HDD deck using the HDD Navigation.

The following screen appears as the HDD Navigation screen when you press **NAVI** with the HDD deck selected. You can move the arrow to select the desired position on the screen by pressing ◁△▷▽ (or ◄▲►▼). When you move the arrow at the top of the HDD Navigation screen, you can change the screens by pressing ◁▷ (or ◄►).

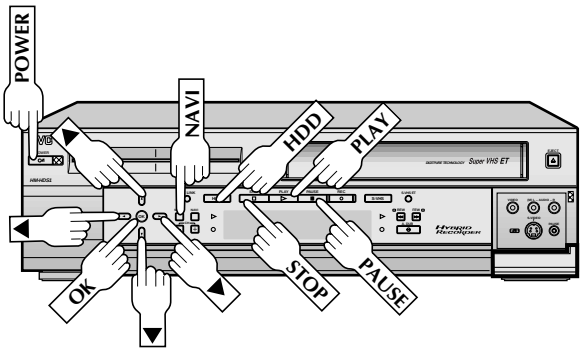


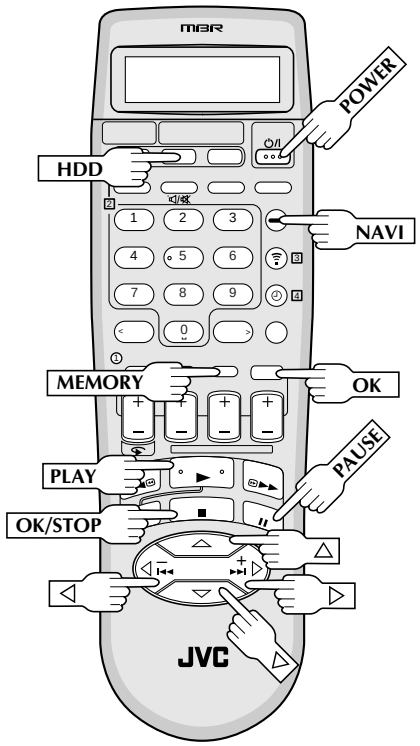
The Icons and their meanings

	You cannot dub this program from the HDD deck to the VHS deck.
D	This program was recorded with Daily mode of Timer recording.
W	This program was recorded with Weekly mode of Timer recording.
ST	This program has stereo sounds.
SA	This program has SAP audio.
	This program was recorded with Timer recording.

Turn on the TV and select the AV mode.

If the recorder is turned on with HDD deck selected, there may be about 30 seconds' delay in starting to show pictures on the screen.





NOTE:

When there are programs stored in MEMORY for Playback, the MODIFY and DELETE commands are not possible.

Scan for Beginning(s) of Program(s)

You can scan the beginning of the program easily with the HDD Navigation.

1 TURN ON THE RECORDER

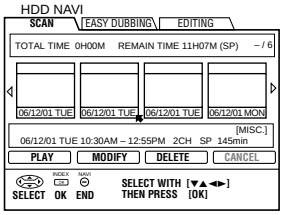
Press **POWER**.

2 SELECT HDD DECK

Press **HDD**. The HDD button lights.

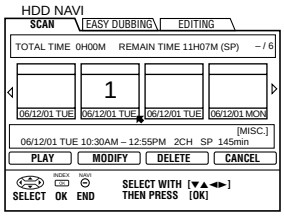
3 ACCESS SCAN SCREEN

1) Press **NAVI**. The HDD Navigation screen appears.
2) Confirm that "SCAN" screen appears. Then, press ▽ (or ▼) or **OK**.



4 SELECT PROGRAM(S)

Press ◁▷ (or ◀▶) to move the arrow on the index (small still pictures) of the desired program.



- When you want the plural programs to be played back continuously, press **MEMORY** on the remote control after selecting the desired program. The numbers of the playback order appear on the index. You can select up to 8 programs.
- When you want to correct the order, move the arrow on the desired index and press **MEMORY** on the remote control. Or, move the arrow on the desired index and press **OK**, then move the arrow to "CANCEL" and press **OK**.
  The number disappears and the recorder re-numbers the other programs automatically.

5 START PLAYBACK

Press **OK** to move the arrow to "PLAY" on the Scan Screen, then press **OK** again. Or simply press **PLAY**. The playback starts.

6 PAUSE PLAYBACK

Press **PAUSE**.

- To resume normal playback, press **PLAY**.

7 STOP PLAYBACK

Press **STOP**.

Live Memory Playback

Equipped with a hard disk drive, this recorder allows information to be written to and read from the hard disk at high speeds. Taking advantage of this feature, you can temporarily record programs received with the tuner or from an externally-connected equipment — CATV or DBS, and can watch them only a few seconds behind actual air time.

In this recorder, viewing a program through HDD (not a recorded program) means you are always watching the program temporarily recorded on it.
This feature enables you to reverse the program back to view any previous part of it — so called "Live Memory Playback", which was impossible until now.

To access "Live Memory Playback", all that you have to do is to turn on the recorder and select the HDD deck.
So, the temporary recording is started on the HDD deck.
And, you can select the length of the time for temporary recording from off, 30 minutes, 1 hour, and 3 hours.

About "Live Memory Playback"
With a certain amount of space (for 30 minutes, 1 hour, and 3 hours) reserved on the hard disk, the recorder records broadcasts being received or signals input from an externally connected equipment.
Even while you are reversing the program to review any previous part, the recorder continues recording the same program or externally-input signals.

When the reserved amount of time (or space) runs out, the recorder overwrites the previous recordings on the hard disk, starting with the oldest one, repeatedly if necessary. After having recorded a certain number of programs, if you try to increase the amount of your reserved time on HDD, you may not be allowed to do so because of possible lack of available space, and the recorder will inform you of this by displaying a message on the screen.

About limitation on Live Memory Playback

Recording to perform Live Memory playback, which means the use of temporary recording on the hard disk, works for signals from built-in tuners, external tuners and externally-connected equipment. This feature also works for copy-protected programs.
The temporary recording for Live Memory is canceled in the following cases, and will start all over again when it is to resume.

- When channels are changed
- When the power is turned off
- When the thumbnails are changed
- When the setting for Live Memory playback is changed
- When recording is started via the HDD deck or the VHS deck
- When a recorded program is played back or deleted

Setting Time for Live Memory Playback

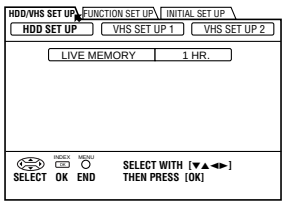
1 ACCESS MAIN MENU SCREEN

Press **MENU**.

- If you want to stop the following procedure on its way, press **MENU**.

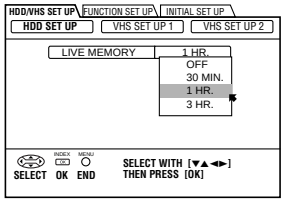
2 ACCESS HDD SET UP SCREEN

1) Press ◁▷ (or ◄►) to move the arrow to "HDD/VHS SET UP", then press ▽ (or ▼) or **OK**.
2) Press ◁▷ (or ◄►) to move the arrow to "HDD SET UP", then press ▽ (or ▼) or **OK**.



3 SELECT LIVE MEMORY MODE

1) At the "LIVE MEMORY", press **OK**.
2) Press △▽ (or ▲▼) to select the desired mode, then press **OK**.



a– Select "OFF" if you do not want to use the Live Memory Playback.
b– Select "30 MIN." if you want to use the Live Memory Playback for up to 30 minutes.
c– Select "1 HR." if you want to use the Live Memory Playback for up to an hour.
d– Select "3 HR." if you want to use the Live Memory Playback for up to 3 hours.

4 RETURN TO NORMAL SCREEN

Press **MENU**.

Start Live Memory Playback

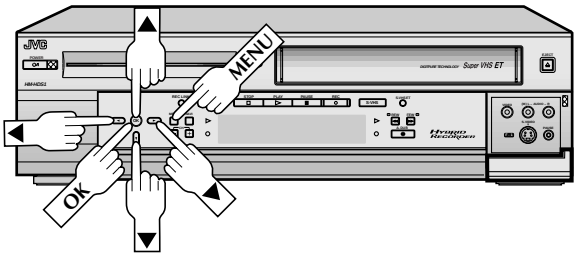
You can start Live Memory Playback by pressing ◁ (or ◄) or ◄◄, then press **PLAY**. When you press ◁ (or ◄) to start Live Memory Playback, the recorder will rewind the pictures to the point where Live Memory time counter shows "00" or "30" in its minutes' place (or to the beginning of the program), then start Live Memory Playback automatically.

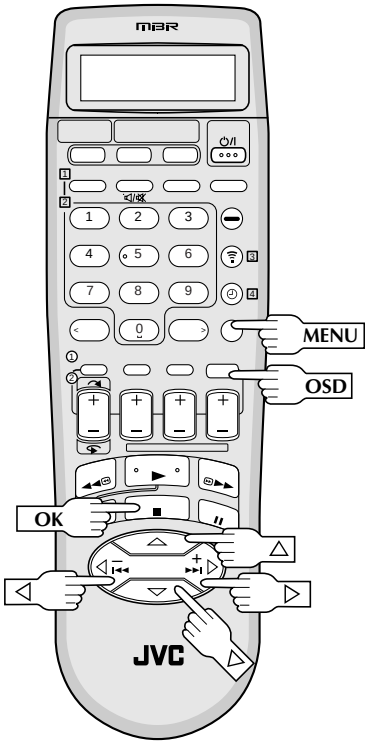
You can use various playback features during Live Memory Playback. (See pages 30 and 31.)

- To stop Live Memory Playback, press **STOP**. The on-air screen resumes.

Turn on the TV and select the AV mode.

If the recorder is turned on with HDD deck selected, there may be about 30 seconds' delay in starting to show pictures on the screen.





Superimpose

This function, switchable between ON and OFF, determines whether or not operational indicators will appear on screen.

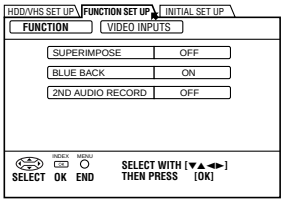
1 ACCESS MAIN MENU SCREEN

Press **MENU**.

- If you want to stop the following procedure on its way, press MENU.

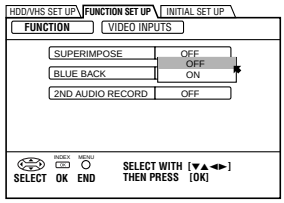
2 ACCESS FUNCTION SCREEN

1) At the top of Main Menu screen, move the arrow to "FUNCTION SET UP" by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.
2) On the Function Set Up screen, move the arrow to "FUNCTION" by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.



3 SELECT SUPERIMPOSE MODE

1) On the Function screen, move the arrow to "SUPERIMPOSE" by pressing △▽ (or ▲▼), then press **OK**.
2) Press △▽ (or ▲▼) to select the desired mode, then press **OK**.



a– Select "ON" if you want the superimposed operational indications on the screen for about 5 seconds when operating the recorder.
b– Select "OFF" if you do not want the superimposed operational indications on the screen.

4 RETURN TO NORMAL SCREEN

Press **MENU**.

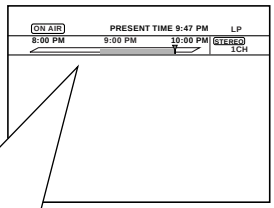
NOTE:

If you select a channel on which no signal is received, the channel number is displayed regardless of the Superimpose mode setting.

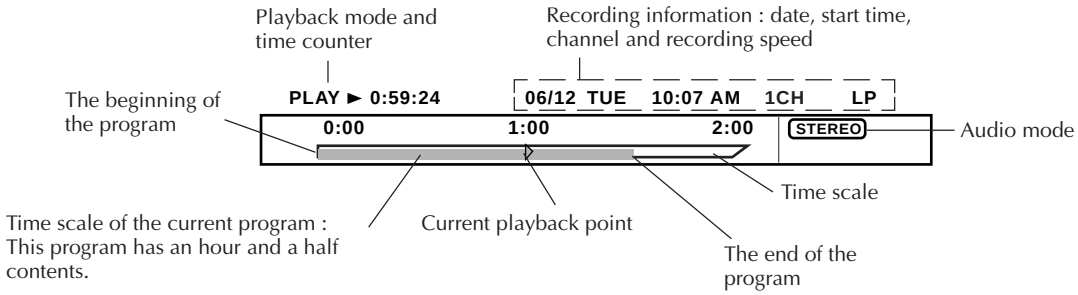
To Recall Indication

Press **OSD**. The indication appears on the top of the screen as follows.

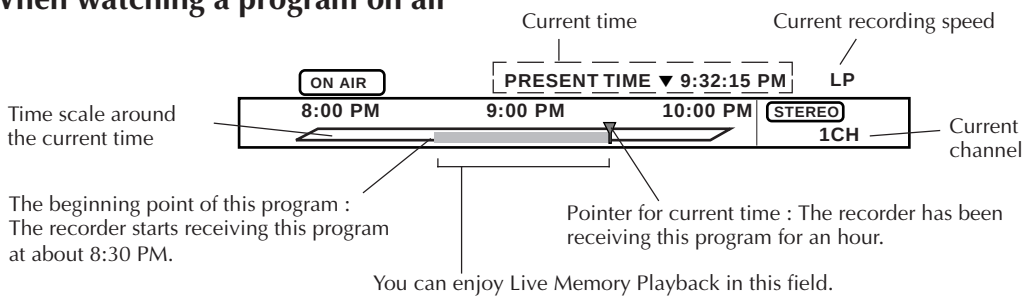
To clear the indication, press **OSD** again.



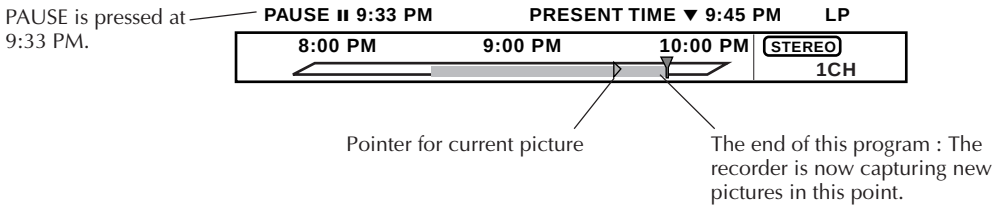
When playing back a recorded program



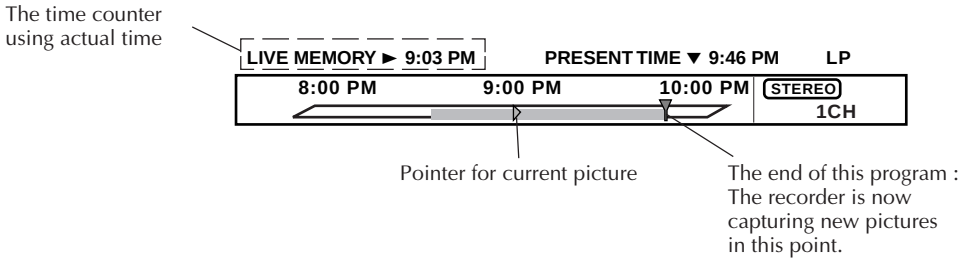
When watching a program on air



When pressing PAUSE



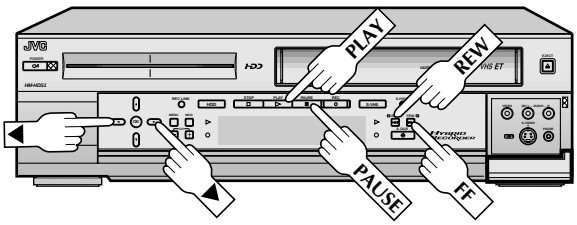
When using Live Memory playback

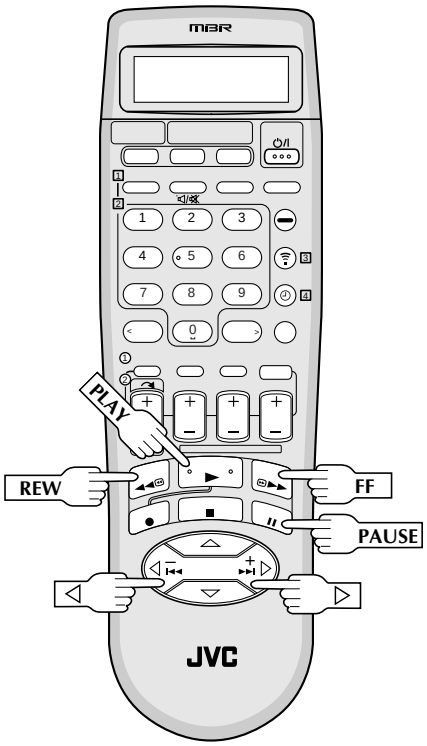


Playback Features

Turn on the TV and select the AV mode.

If the recorder is turned on with HDD deck selected, there may be about 30 seconds' delay in starting to show pictures on the screen.





High-Speed Search

1 ACTIVATE HIGH-SPEED SEARCH

During playback (or Live Memory Playback), press **FF** for forward high-speed search, or **REW** for reverse high-speed search.

- The search speed is 15 times normal playback speed.

To resume normal playback, press **PLAY**.

NOTES:

- *For short searches, during playback or still, press and hold **FF,** or **REW**. When released, normal playback resumes.*
- *If either end of the program is reached during high-speed search, normal playback will resume.*

Still Picture/Frame-By-Frame Playback

1 PAUSE DURING PLAYBACK

Press **PAUSE**.

2 ACTIVATE FRAME-BY-FRAME PLAYBACK

Press **PAUSE** or ▷ (or ►) repeatedly to advance one frame at a time. Press ◁ (or ◄) repeatedly to reverse one frame at a time.

To resume normal playback, press **PLAY**.

Slow Motion/Reverse Slow Motion

1 ACCESS SLOW-MOTION PLAYBACK

For hands-free slow-motion, press **PAUSE** during playback (or Live Memory Playback).

2 ACTIVATE SLOW-MOTION PLAYBACK

Press and hold ▷ (or ►) for forward slow-motion, ◁ (or ◄) for reverse slow-motion.

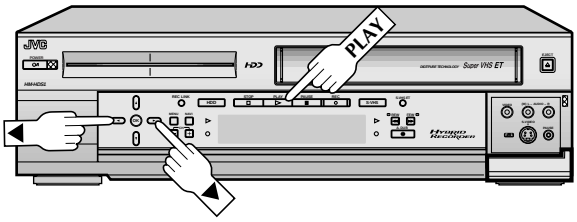
3 CHANGE SLOW-MOTION SPEED

Press ▷ (or ►) or ◁ (or ◄) repeatedly. The slow-motion speed changes in three steps for each direction.

To resume normal playback, press **PLAY**.

Turn on the TV and select the AV mode.

If the recorder is turned on with HDD deck selected, there may be about 30 seconds' delay in starting to show pictures on the screen.



Variable-Speed Search/ Reverse Motion Playback

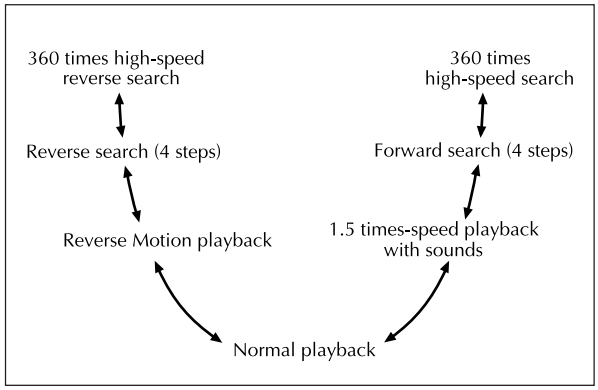
1 ACTIVATE VARIABLE-SPEED SEARCH

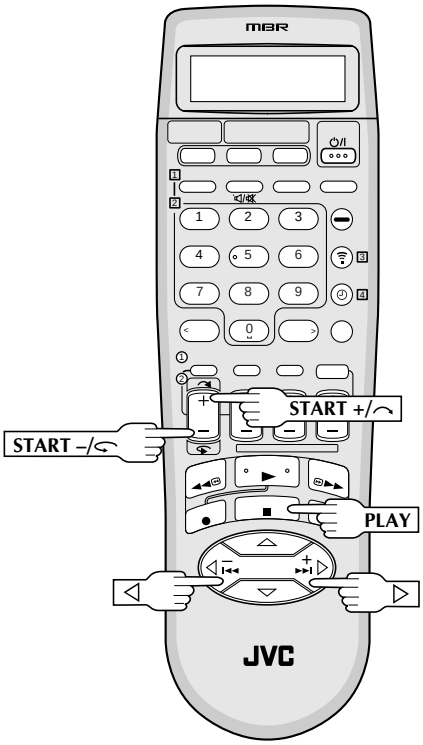
During playback (or time-shift playback), press ▷ (or ►) for forward variable-speed search or press ◁ (or ◄) for reverse motion playback.

2 CHANGE SPEED

Press ▷ (or ►) or ◁ (or ◄) repeatedly to change playback speed as illustrated below.

To resume normal playback, press **PLAY**.





Quick Rewind a little

1 ACTIVATE QUICK REWIND

During playback (or Live Memory Playback), press ↶ (**START –**). The unit rewinds the picture a little (about 7 seconds) and resumes playback.

- If the button is pressed repeatedly, the unit rewinds the pictures continuously and resumes playback.

Quick Skip Forward

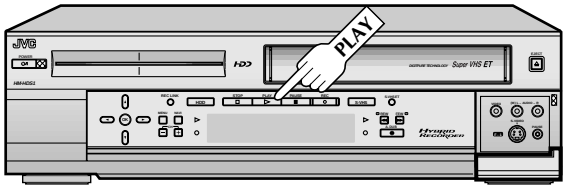
1 ACTIVATE QUICK SKIP

During playback (or Live Memory Playback), press ↷ (**START +**). The unit skips forward (about 30 seconds at a time) and resumes playback.

- If the button is pressed repeatedly, the recorder skips continuously and resumes playback.

Turn on the TV and select the AV mode.

If the recorder is turned on with HDD deck selected, there may be about 30 seconds' delay in starting to show pictures on the screen.



Repeat Playback (Normal Playback Only)

1 START REWIND

During playback, press and hold **PLAY** (until " ▷ " blinks on the front display panel), then release. The unit starts playing back the whole program repeatedly up to 100 times. The HDD playback indicator is flashing.

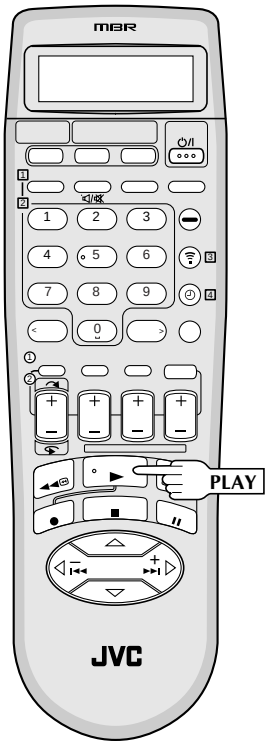
To resume normal playback, press **PLAY**.

Select The Soundtrack

The HDD deck can record two soundtracks simultaneously (L and R) and play back the selected one, or both together.

You can select the soundtrack by simply pressing the remote control's **A. MONITOR** button as follows:

L+R → L → R → L+R



Recording Features

Record One Program While Watching Another

1 ENGAGE TV MODE

During recording...
● Change the TV's input mode from AV to TV.

2 SELECT CHANNEL FOR VIEWING

Use the TV's channel selector to set the channel you want to watch.

Live Memory Playback (while recording)

You can use the following playback features as the Time-Shift Playback while you are recording a program.

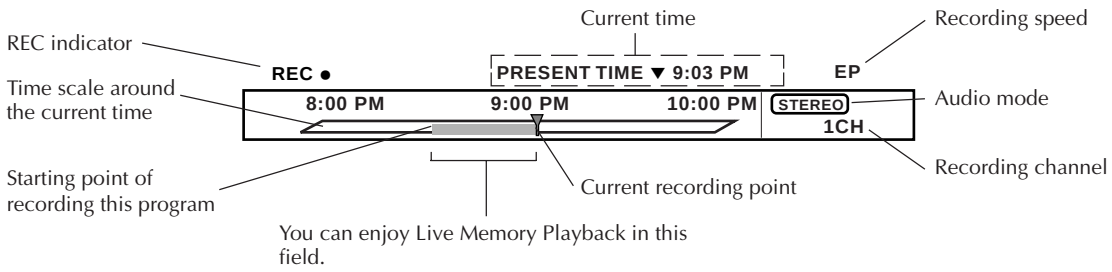
- High-Speed Search
- Still Picture/Frame-By-Frame Playback
- Slow Motion/Reverse Slow Motion
- Variable-Speed Search/Reverse Motion Playback
- Quick Rewind a little
- Quick Skip Forward

Display While Recording

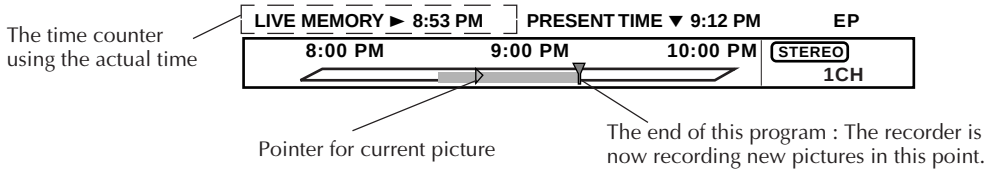
Press **OSD**. The indication appears on the top of the screen as follows.

● To clear the indication, press **OSD** again.

While recording



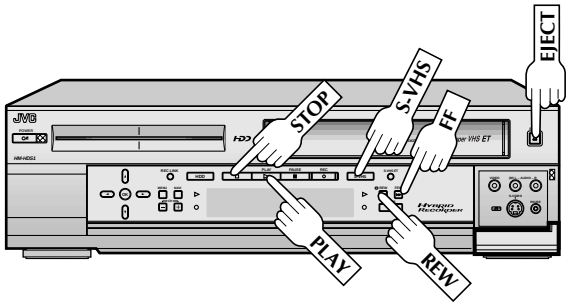
When using Live Memory Playback while recording

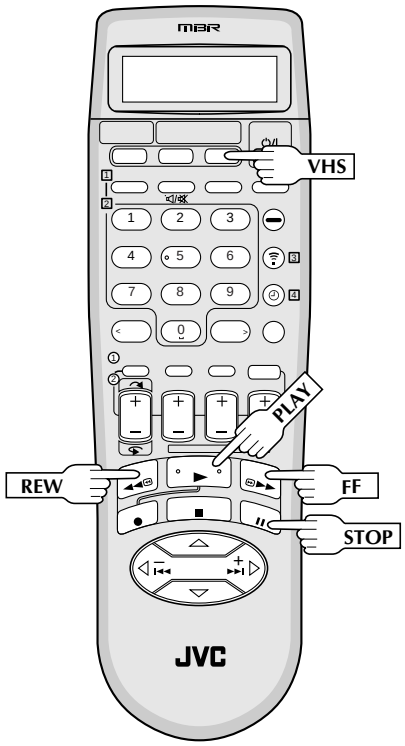


Simple Playback

Turn on the TV and select the AV mode.

If the recorder is turned on with HDD deck selected, there may be about 30 seconds' delay in starting to show pictures on the screen.





1 LOAD A CASSETTE

Make sure the window side is up, the rear label side is facing you and the arrow on the front of the cassette is pointing towards the recorder. Don't apply too much pressure when inserting.

- The recorder's power comes on automatically.
- The counter is automatically reset to "0:00:00".
- If the cassette's record safety tab has been removed, playback begins automatically.

2 SELECT VHS DECK

Press **VHS** (or **S-VHS**). The **S-VHS** button lights on the front panel.

3 FIND PROGRAM START POINT

If the tape is advanced past the start point, press **REW**. To go forward, press **FF**.

4 START PLAYBACK

Press **PLAY**. "VIDEO CALIBRATION" appears on the screen (when VIDEO CALIBRATION is set to "ON" ☞ pg. 47). The VHS playback indicator lights on the front panel.

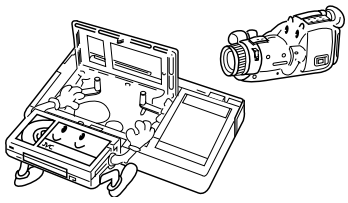
5 STOP PLAYBACK

Press **STOP**. Then press **EJECT** on the front panel to remove the cassette.

Usable cassettes

VHS deck
Full-Size VHS
T-30 (ST-30**)
T-60 (ST-60**)
T-90
T-120 (ST-120**)
T-160 (ST-160**)
ST-210**

Compact VHS*
TC-20 (ST-C20**)
TC-30 (ST-C30**)
TC-40 (ST-C40**)



* Compact VHS camcorder recordings can be played on this video recorder. Simply place the recorded cassette into a VHS Cassette Adapter and it can be used just like any full-sized VHS cassette.

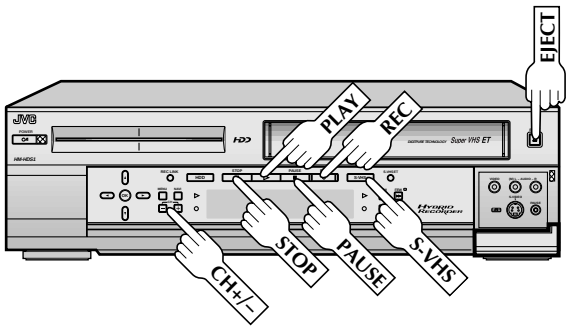
** This recorder can record on regular VHS and Super VHS cassettes. While only VHS signals can be recorded on regular VHS cassettes*, both VHS and Super VHS signals can be recorded and played back using Super VHS cassettes.

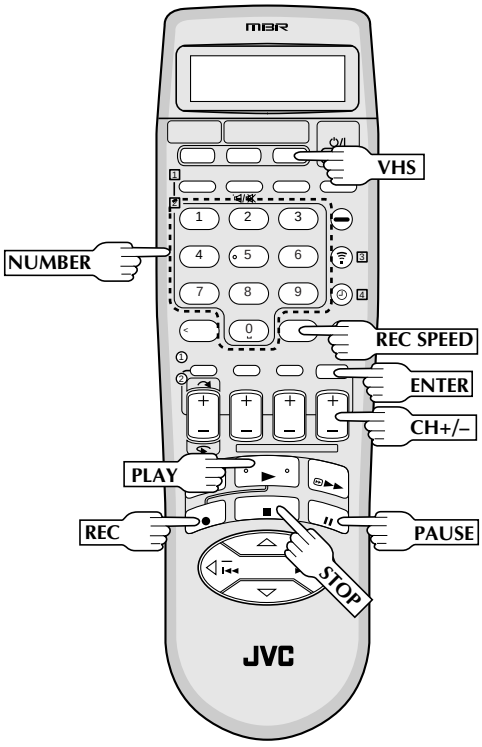
** By using S-VHS ET it is possible to record and play back with S-VHS picture quality on VHS cassettes with this recorder.*

Simple Recording

Turn on the TV and select the AV mode.

If the recorder is turned on with HDD deck selected, there may be about 30 seconds' delay in starting to show pictures on the screen.





1 LOAD A CASSETTE

Insert a VHS (or S-VHS) cassette with the record safety tab intact.

If you want to use VHS Navigation to select the program after recording with this unit, set "VHS NAVIGATION" to "ON" in VHS SET UP 1 of Main Menu **before recording**. For details, see the next page.

2 SELECT VHS DECK

Press **VHS** (or **S-VHS**). The **S-VHS** button lights on the front panel.

3 SELECT RECORDING CHANNEL

Press **CH +/–**. Or press the appropriate **NUMBER** keys, then press **ENTER**. (The channel changes after a few seconds whether you press **ENTER** or not.)

4 SET TAPE SPEED

Press **REC SPEED** to select the recording speed from **SP** or **EP**.

5 START RECORDING

Press and hold **REC** and press **PLAY** on the remote control, or press **REC** on the recorder's front panel. The VHS recording indicator lights on the front panel.

Video Calibration takes place at the beginning of both the first SP and the first EP recording after inserting the cassette (when Video Calibration is set to "ON" ☞ pg. 47).

6 PAUSE/RESUME RECORDING

Press **PAUSE**. Press **PLAY** to resume recording.

- During record pause, you can change the recording channel by using the **CH +/–** buttons or **NUMBER** keys.

Video Calibration will not take place if the tape speed is changed while in record pause mode.

7 STOP RECORDING

Press **STOP**. Then press **EJECT** on the VHS to remove the cassette.

NOTE:

- *It is not possible to record a TV program on both the VHS deck and the HDD deck simultaneously.*
  In addition, it is not possible to record simultaneously from the same external input.

Playback with VHS Navigation

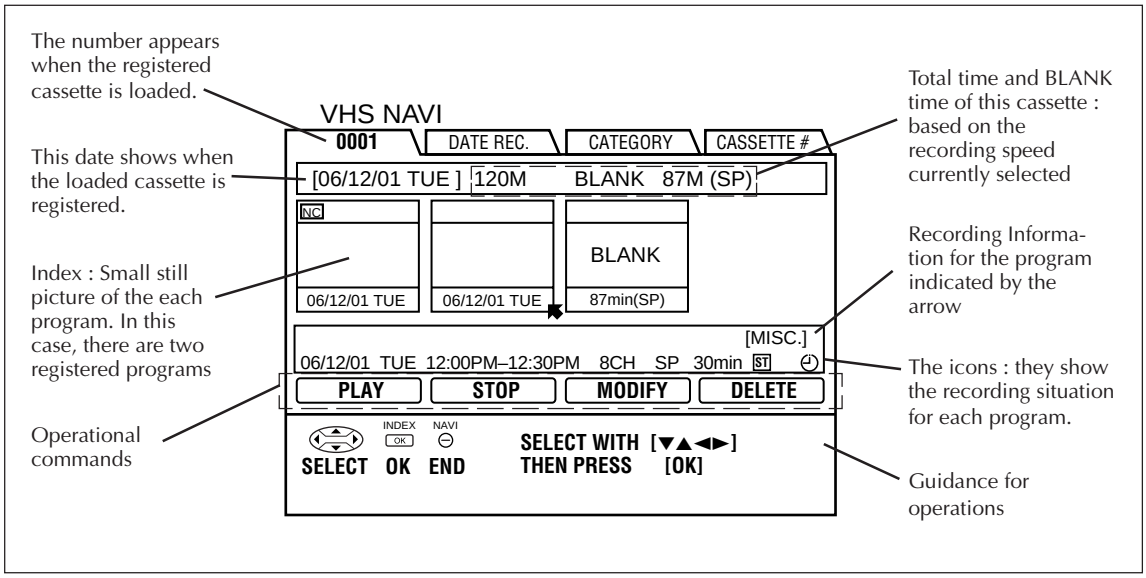
The VHS Navigation enables you to seach and select the desired program recorded with the VHS deck very easily.

When you record a program with the VHS deck for more than 5 minutes in SP mode (for more than 15 minutes in EP mode) with “NAVIGATION” of “VHS SET UP 1” set to “ON”, its information are registered in the VHS Navigation automatically.

When the first program is recorded on a cassette, the VHS Navigation gives the register number to the cassette. The VHS Navigation memorizes the cassette by the number. You can confirm the register number of the cassette when the cassette is loaded or ejected.

The VHS Navigation can register up to 2000 programs or up tp 680 cassettes.

The following screen appears as the VHS Navigation screen when you press **NAVI** with the VHS deck selected. You can move the arrow to select the desired position on the screen by pressing ◁△▷▽ (or ◄▲►▼).

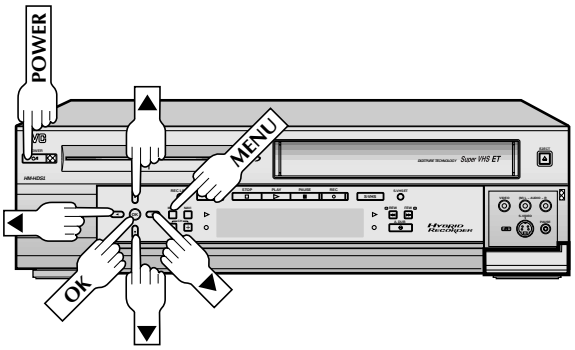


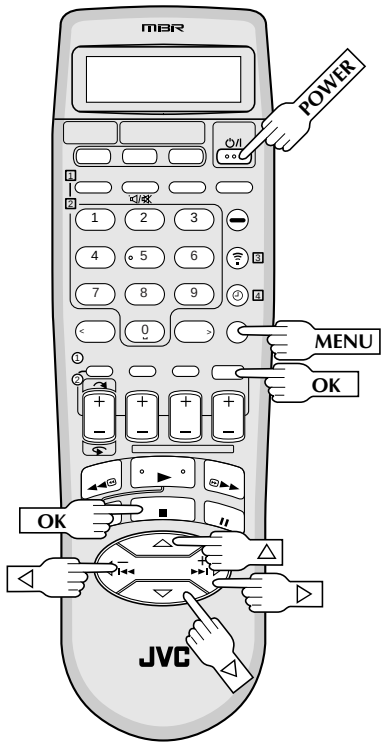
The Icons and their meanings

NC	This program has a little gap at the beginning.
ST	This program has stereo sounds.
SA	This program has SAP audio.
◴	This program was recorded with Timer recording.

Turn on the TV and select the AV mode.

If the recorder is turned on with HDD deck selected, there may be about 30 seconds' delay in starting to show pictures on the screen.





Set VHS Navigation

1 TURN ON THE RECORDER

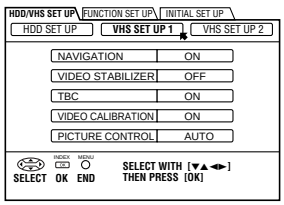
Press **POWER**.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

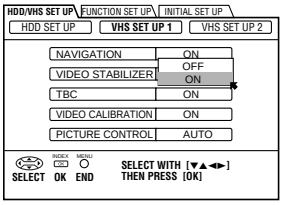
3 ACCESS VHS SET UP 1 SCREEN

1) At the top of the Main Menu screen, move the arrow to "HDD/VHS SET UP" by pressing ◁▷ (or ◀▶), then press ▽ (or ▼) or **OK**.
2) On the HDD/VHS Set Up screen, move the arrow to "VHS SET UP 1" by pressing ◁▷ (or ◀▶), then press ▽ (or ▼) or **OK**.



4 SELECT VHS NAVIGATION MODE

1) On the VHS Set Up 1 screen, move the arrow to "NAVIGATION" by pressing △▽ (or ▲▼), then press **OK**.
2) Pressing △▽ (or ▲▼) to select the desired mode, then press **OK**.



a– Select "ON" if you want to use the VHS Navigation. When you set the VHS Navigation to "ON", "VN" appears on the display of the front panel.
b– Select "OFF" if you do not want to use VHS Navigation.

5 RETURN TO NORMAL SCREEN

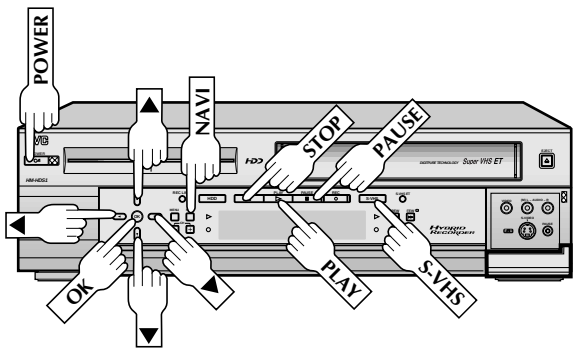
Press **MENU**.

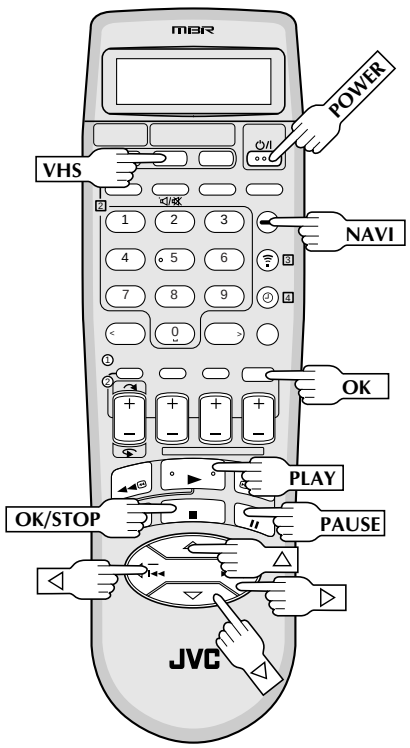
Scan for Beginning of Program with VHS Navigation

The VHS Navigation can take effect for the program which has been recorded, and whose information has been registered with this recorder. Once the VHS (S-VHS) cassettes have been used for recording with this recorder, they have the register number given by this recorder.

Turn on the TV and select the AV mode.

If the recorder is turned on with HDD deck selected, there may be about 30 seconds' delay in starting to show pictures on the screen.





1 TURN ON THE RECORDER

Press **POWER**.

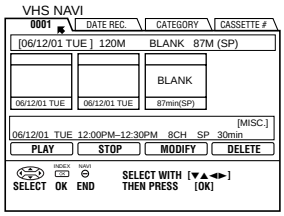
2 SELECT VHS DECK

Press **VHS** (or **S-VHS**). The **S-VHS** button lights on the front panel.

3 ACCESS VHS NAVIGATION SCREEN

Press **NAVI**. The VHS Navigation screen appears.

- If a registered cassette has been loaded, the contents of the loaded cassette will appear.



4 SEARCH FOR THE REGISTERED PROGRAM

Press ◁▷ or ◄► to move the arrow to select one of the following search types, then press **OK** or ▽ (or ▼).

a– Select the number if you want to select the registered program from the currently loaded cassette. If no cassette is loaded, "----" will appear in this position and this is unable to be selected.
b– Select "DATE REC." if you want to search for the registered program by the recording date.
c– Select "CATEGORY" if you want to search for the registered program by the category in which you have classified the program.
d– Select "CASSETTE #" if you want to search for the program by each registered cassette.

If you select **b**, **c**, or **d** to search for the program, you must go to screen **a** after checking the number of the registered cassette including the desired program.

5 SELECT PROGRAM

Press ◁▷ (or ◄►) to move the arrow on the index of the desired program.

6 START PLAYBACK

Press **PLAY** or **OK**.

- If no cassette has been loaded, the register number will be required. In this case, load the cassette with the required number on the VHS deck, then retry.

7 PAUSE PLAYBACK

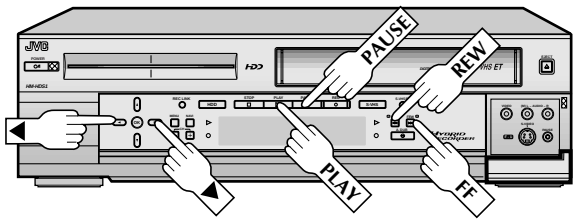
Press **PAUSE**.

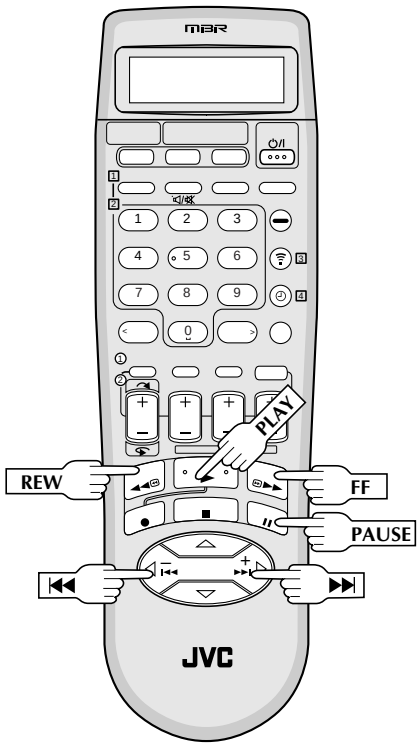
- To resume normal playback, press PLAY.

8 STOP PLAYBACK

Press **STOP**.

Playback Features





ATTENTION

- In the high-speed search, still, slow motion or frame-by-frame playback mode, the picture will be distorted, and there will be a loss of color.
- When normal playback resumes from search, still, slow motion or frame-by-frame playback, the picture may jitter vertically momentarily depending on the type of TV being used.

High-Speed Search

1 ACTIVATE HIGH-SPEED SEARCH

During playback (or Live Memory Playback), press **FF** for forward high-speed search, or **REW** for reverse high-speed search.

- The search speed is 11 times normal playback speed with SP recordings, and 31 times with EP recordings.

To resume normal playback, press **PLAY**.

NOTE:

- *For short searches, during playback or still, press and hold **FF**, **REW**. When released, normal playback resumes.*

Still Picture/Frame-By-Frame Playback

1 PAUSE DURING PLAYBACK

Press **PAUSE**.

2 ACTIVATE FRAME-BY-FRAME PLAYBACK

Press **PAUSE** repeatedly to advance one frame at a time.

OR

Press **PAUSE** for two seconds to start frame-by-frame playback.

To resume normal playback, press **PLAY**.

Slow Motion/Reverse Slow Motion

1 ACCESS SLOW-MOTION PLAYBACK

For hands-free slow-motion, press **PAUSE** during playback (or time-shift playback).

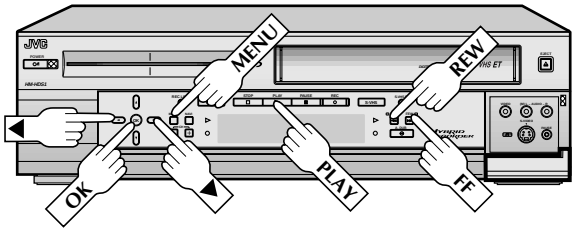
2 ACTIVATE SLOW-MOTION PLAYBACK

Press ►►I (or ►) for forward slow-motion, or I◄◄ (or ◄) for reverse slow-motion.

3 CHANGE SLOW-MOTION SPEED

Press ►►I (or ►) or I◄◄ (or ◄) repeatedly. The slow-motion speed changes in three steps for each direction.

To resume normal playback, press **PLAY**.



Variable-Speed Search/ Reverse Motion Playback

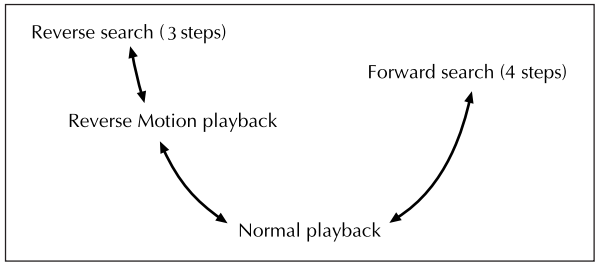
1 ACTIVATE VARIABLE-SPEED SEARCH

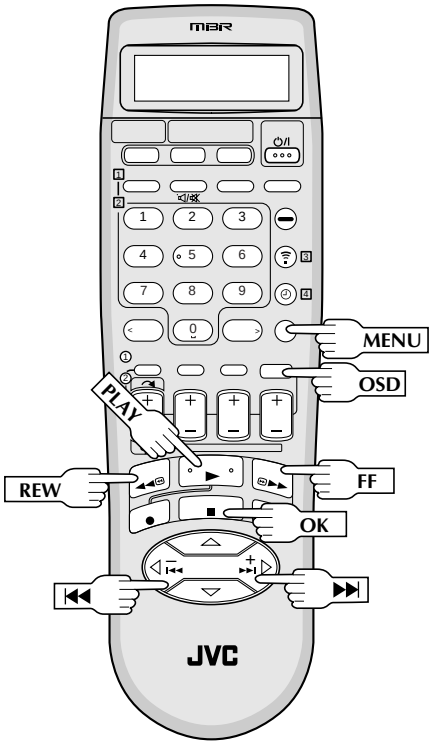
During playback (or time-shift playback), press ►►I (or ►) for forward variable-speed search, I◄◄ (or ◄) for reverse motion playback.

2 CHANGE SPEED

Press ►►I (or ►) or I◄◄ (or ◄) repeatedly to change playback speed as illustrated below.

To resume normal playback, press **PLAY**.





Index Search

Index codes are placed on the tape at the start of each recording. You can find and automatically play back from the start of any recording using the Index Search function.

1 START SEARCH

While the tape is stopped, press ▷ or ◁ (►►I or I◄◄).

2 ACCESS DISTANT CODE

To access a recording 2–9 index codes away, press ▷ or ◁ repeatedly until the correct number is displayed on screen (only if "SUPERIMPOSE" is set to "ON" (☞ pg. 41). Playback begins automatically when the desired recording is located.

- If necessary press **REW** or **FF** when play starts to search visually to find the very beginning of the desired program.

NOTE:

An index code is not placed on the tape when recording is paused and then resumed.

Superimpose

This function, switchable between ON and OFF, determines whether or not operational indicators will appear on screen.

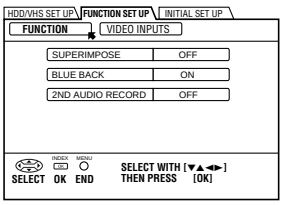
1 ACCESS MAIN MENU SCREEN

Press **MENU**.

- If you want to stop the following procedure on its way, press **MENU**.

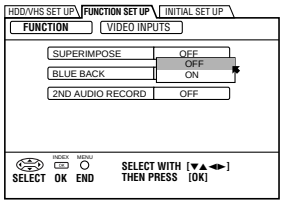
2 ACCESS FUNCTION SCREEN

1) At the top of Main Menu screen, move the arrow to "FUNCTION SET UP" by pressing ◁▷ (or ◀▶), then press ▽ (or ▼) or **OK**.
2) On the Function Set Up screen, move the arrow to "FUNCTION" by pressing ◁▷ (or ◀▶), then press ▽ (or ▼) or **OK**.



3 SELECT SUPERIMPOSE MODE

1) On the Function screen, move the arrow to "SUPERIMPOSE" by pressing △▽ (or ▲▼), then press **OK**.
2) Press △▽ (or ▲▼) to select the desired mode, then press **OK**.



a– Select "ON" if you want the superimposed operational indications on the screen about 5 seconds when operating the recorder.
b– Select "OFF" if you do not want the superimposed operational indications on the screen.

4 RETURN TO NORMAL SCREEN

Press **MENU**.

To recall an indication

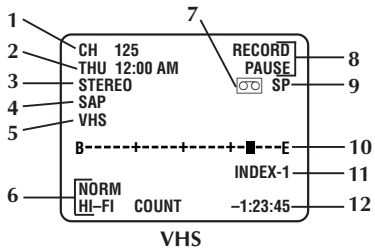
1 Press **OSD**.
- All indications corresponding to the current status are displayed for 5 seconds. After that, the counter information and RECORD/PAUSE if in the Record Pause mode, are left displayed on the screen.

2 Press **OSD** again to clear the display.
- The RECORD/PAUSE indication is left displayed on the screen.

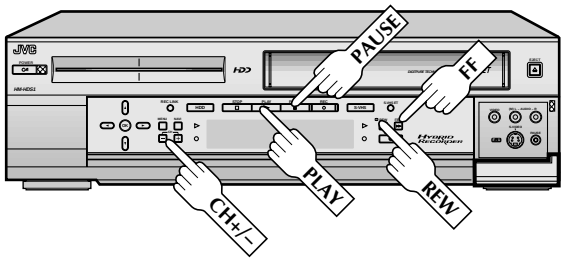
NOTES:

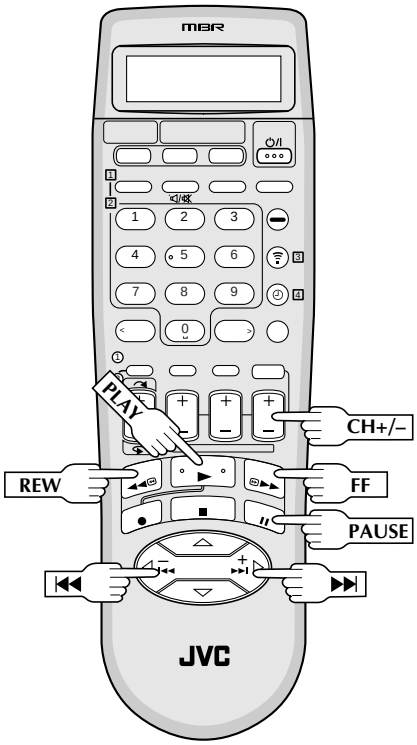
- *If you engage the Record Pause mode, RECORD/PAUSE is displayed regardless of the Superimpose mode setting.*
- *If you select a channel on which no signal is received, the channel number is displayed regardless of the Superimpose mode setting.*

The superimposed indication on the TV screen tells you what the recorder is doing.



1– Tuned-in channel or AUX(iliary) mode
When the channel is changed, the new channel is displayed on the screen for 5 seconds.
2– Clock time
3– Stereo program indication
4– Second Audio Program indication
5– VHS indicator
6– Audio mode indications
7– "Cassette Loaded" mark
When a cassette is loaded, the mark is displayed for 5 seconds. It blinks when the recorder's EJECT button is pushed.
8– Operation mode
When the operation mode is changed, the new mode is displayed — RECORD (5 sec.), PLAY (5 sec.), FF/REW (5 sec. when engaged from Stop mode), RECORD PAUSE (for as long as Pause is engaged), and ITR *:** (5 sec.).
9– Tape speed indication
10– Tape position indicator
11– INDEX indication
12– Counter reading
Switchable to the tape remaining time display





Manual Tracking

Once playback begins, the VCR's automatic tracking function is engaged. If tracking noise appears in the picture, you can override this and make the adjustment manually.

1 ENGAGE MANUAL TRACKING MODE

During playback, press **CH +/–** on the front panel simultaneously to cancel the automatic tracking mode and enable manual tracking adjust.

2 ADJUST MANUAL TRACKING

Press **CH +** or **–** on the front panel or remote. Press briefly for fine adjust, or press and hold for coarse adjust. Watch the screen and continue adjusting until optimum picture and sound quality are achieved.

3 RE-ENGAGE AUTOMATIC TRACKING

Press **CH +/–** on the front panel simultaneously.

- When automatic tracking is re-engaged, Video Calibration is automatically activated.

NOTES:

- *To obtain a noiseless still picture it may be necessary to adjust tracking in slow playback and then engage Pause.*
- *Manual tracking is possible during hands-free slow-motion. During hands-free slow-motion playback, simply press* **CH +** *or* **–** *on the recorder's front panel or remote to adjust tracking.*

Repeat Playback

1 START REPEAT

Press and hold **PLAY** (until " ▷ " blinks on the front display panel) during playback, then release.

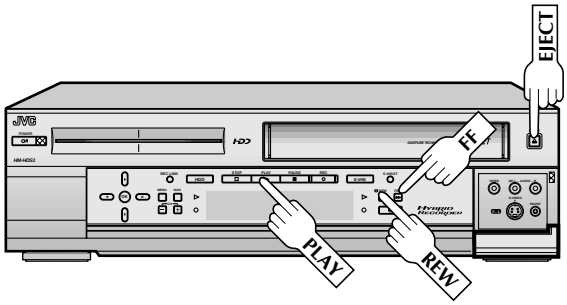
- The entire tape is played back 100 times.

2 STOP REPEAT

To stop, press **STOP** at any time.

NOTE:

Pressing **PLAY**, **REW**, **FF**, **PAUSE** *or* ⏮ ⏭ *also stops Repeat Playback.*



Counter Reset

1 RESET COUNTER TO ZERO

Press **C.RESET**.

NOTE:

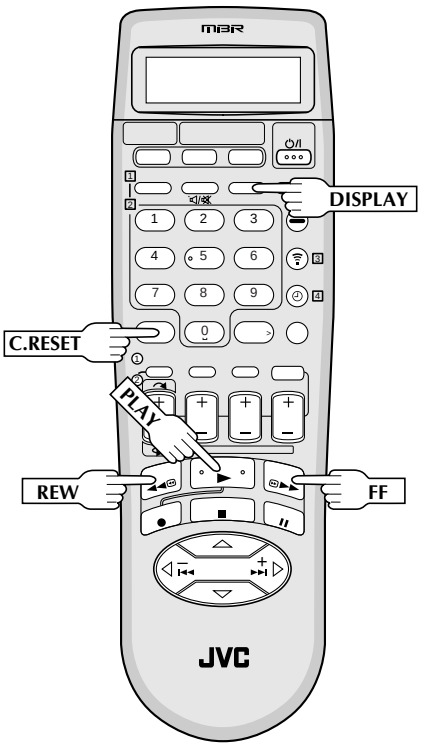
By pressing the **DISPLAY** *button, you can change the display to show the counter reading, channel number, clock time or tape remaining time. (Channel number is not displayed during playback.)*

Next-Function Memory

The Next Function Memory "tells" the recorder what to do after rewinding. Before continuing, ensure that the recorder is in stop mode.

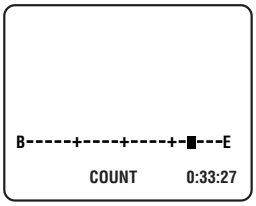
a – For Automatic Start Of Playback After Tape Rewind . . .
. . . press **REW**, then press **PLAY** within 2 seconds.

b – For Automatic Ejection Of Cassette After Tape Rewind . . .
. . . press **REW**, then press **EJECT** within 2 seconds.



Tape Position Indicator

The Tape position indicator appears on screen when, from the stop mode, you press **FF**, **REW**, or perform an Index Search. The position of " ■ " in relation to "B" (Beginning) or "E" (End) shows you where you are on the tape.

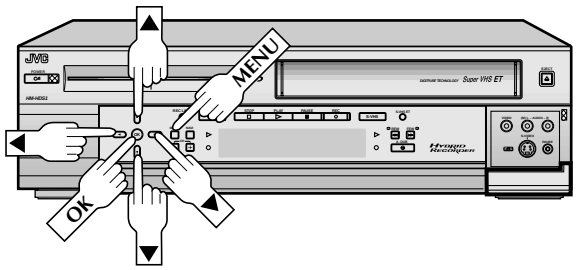


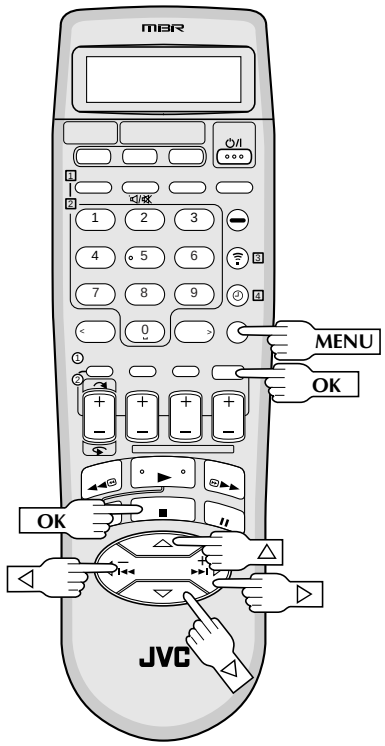
NOTES:

- *"SUPERIMPOSE" must be set to "ON", or the indicator will not appear (☞ pg. 41).*
- *It may take a few seconds for the Tape Position Indicator to be displayed.*

Picture Control

This feature helps you to adjust the playback picture quality according to your preference. *The default setting is "AUTO."



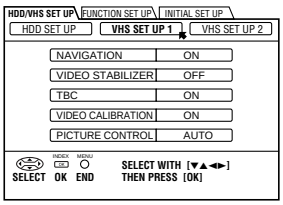


1 ACCESS MAIN MENU SCREEN

Press **MENU**.

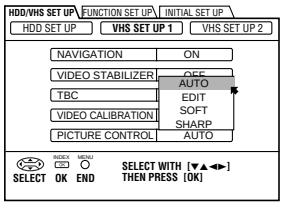
2 ACCESS VHS SET UP 1 SCREEN

1) At the top of the Main Menu screen, move the arrow to "HDD/VHS SET UP" by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.
2) On the HDD/VHS Set Up screen, move the arrow to "VHS SET UP 1" by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.



3 SELECT PICTURE CONTROL MODE

1) On the VHS Set Up 1 screen, move the arrow to "PICTURE CONTROL" by pressing △▽ (or ▲▼), then press **OK**.
2) Pressing △▽ (or ▲▼) to select the desired mode, then press **OK**.



AUTO*: Normally select "AUTO".
It automatically adjusts the picture quality.
* When "VIDEO CALIBRATION" is set to "OFF" (☞ pg. 47), you can only select NORM instead of AUTO.

EDIT: Select when you dub tapes.
SOFT: Select when you want to soften the picture.
SHARP: Select when you want to sharpen the picture.

NOTE:

- *When you select "EDIT", "SHARP" or "SOFT", the selected mode will not change until you select again.*
- *When you select "EDIT" to dub tapes, be sure to select "AUTO" (or "NORM" when "VIDEO CALIBRATION" is set to "OFF") after you finish dubbing the tapes.*

4 RETURN TO NORMAL SCREEN

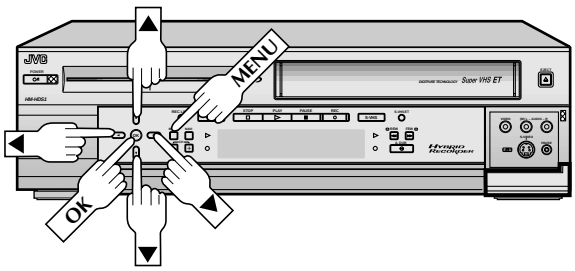
Press **MENU**.

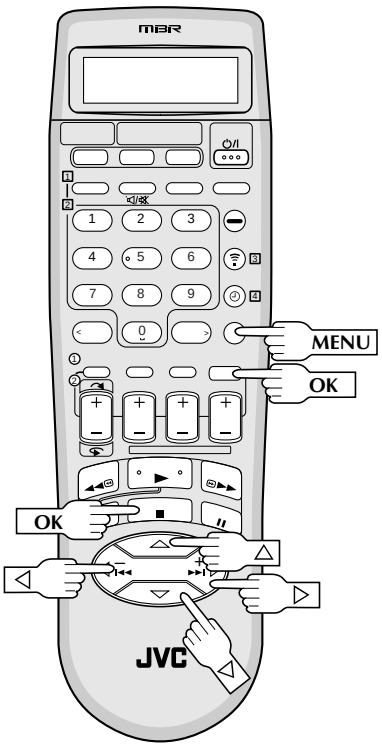
NOTE:

Select "EDIT" when you are dubbing tapes. Refer to page 73.

Video Stabilizer

By activating the Video Stabilizer you can correct vertical vibrations in the picture when playing back unstable EP recordings that were made on another VCR. When this function is set to "ON", vertical vibration will be automatically corrected. *The default setting is "OFF".



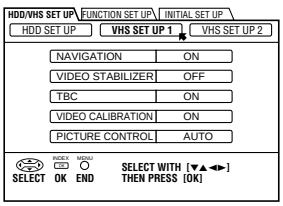


1 ACCESS MAIN MENU SCREEN

Press **MENU**.

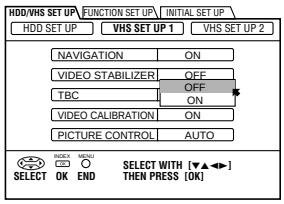
2 ACCESS VHS SET UP 1 SCREEN

1) At the top of the Main Menu screen, move the arrow to "HDD/VHS SET UP" by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.
2) On the HDD/VHS Set Up screen, move the arrow to "VHS SET UP 1" by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.



3 SELECT VIDEO STABILIZER MODE

1) On the VHS Set Up 1 screen, move the arrow to "VIDEO STABILIZER" by pressing △▽ (or ▲▼), then press **OK**.
2) Pressing △▽ (or ▲▼) to select the desired mode, then press **OK**.



4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *When you finish viewing the tape, be sure to set it back to "OFF".*
- *Regardless of the setting, this function has no effect during recording and during special-effects playback.*
- *The Superimpose mode indications may jitter vertically when "VIDEO STABILIZER" is set to "ON".*
- *To watch recordings with close-caption, it is necessary to set the Video Stabilizer function to "OFF".*

TBC

Your recorder is equipped with the TBC (Time Base Corrector) that removes jitter from fluctuating video signals to deliver a stable picture even with old tapes and rental cassettes.
The on/off of Digital 3-DNR (Noise Reduction) which cuts noise and enables clear picture reproduction is also linked to this function.
* The default setting is “ON”.

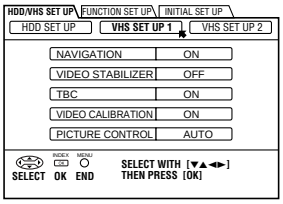
We recommend that you use the TBC feature when...
... playing back a tape recorded on a camcorder.
... playing back a tape repeatedly used.
... using this recorder as the player for editing.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

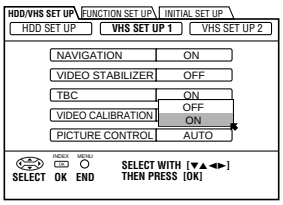
2 ACCESS VHS SET UP 1 SCREEN

1) At the top of the Main Menu screen, move the arrow to “HDD/VHS SET UP” by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.
2) On the HDD/VHS Set Up screen, move the arrow to “VHS SET UP 1” by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.



3 SELECT TBC MODE

1) On the VHS Set Up 1 screen, move the arrow to “TBC” by pressing △▽ (or ▲▼), then press **OK**.
2) Pressing △▽ (or ▲▼) to select the desired mode, then press **OK**.



4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *If you play back a tape recorded under poor TV reception condition, there may be cases where the picture becomes more stable with Digital TBC set to off.*
- *When Digital TBC is set to on, if you play back a tape where certain types of signals are recorded (using a PC or some character generators), the playback picture may be distorted. If this is the case, turn off Digital TBC.*
- *Digital TBC and Video Stabilizer (☞ pg. 45) cannot be used at the same time; if you turn on Digital TBC when "VIDEO STABILIZER" is set to "ON", Video Stabilizer will be automatically turned "OFF". Make sure Digital TBC is off when you want to use Video Stabilizer.*

Select The Soundtrack

The VHS deck can record two soundtracks simultaneously (Normal and Hi-Fi) and play back the selected one, or both together. Or, when viewing a pre-recorded tape that contains two separate Hi-Fi audio programs, you can choose to listen to either one by selecting either "Hi-Fi L" or "Hi-Fi R".

You can select the soundtrack by simply pressing the remote control's **A. MONITOR** button as follows:

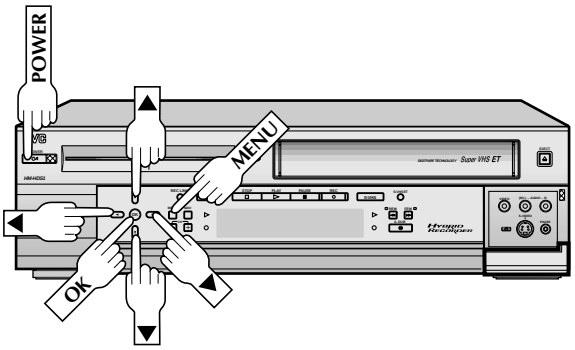
Hi-Fi → Hi-Fi L → Hi-Fi R → Normal → Mix → Hi-Fi

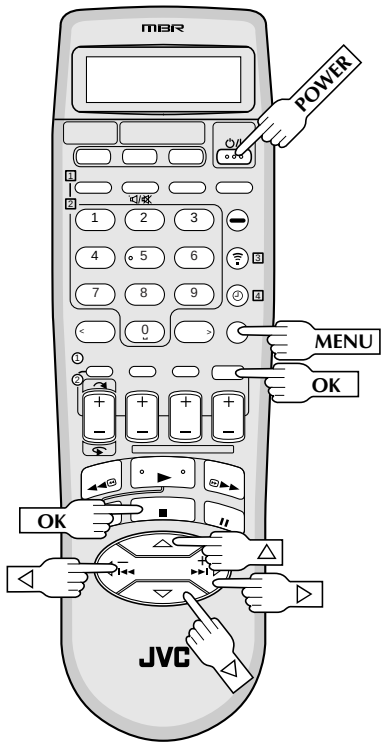
NOTE:

If the tape being played back has no Hi-Fi soundtrack, the Normal soundtrack will be heard no matter what choice you make.

Active Video Calibration

Turn on the TV and select the AV mode.





Preparation

Active Video Calibration checks the condition of the tape during recording and playback, and compensates for poor reproduction to provide the best quality recording and playback pictures. *The default setting is “ON”.

1 TURN ON THE RECORDER

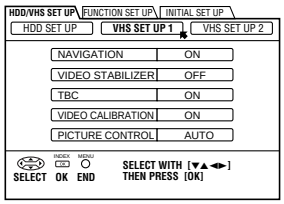
Press **POWER**.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

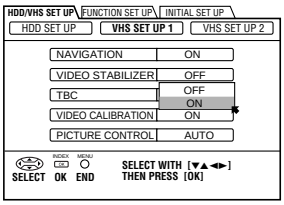
3 ACCESS VHS SET UP 1 SCREEN

1) At the top of the Main Menu screen, move the arrow to “HDD/VHS SET UP” by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.
2) On the HDD/VHS Set Up screen, move the arrow to “VHS SET UP 1” by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.



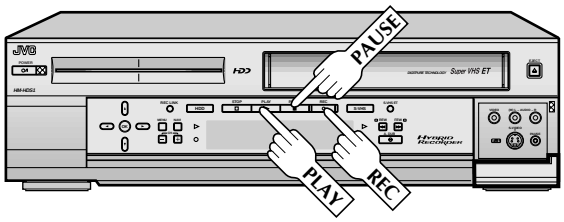
4 SELECT VIDEO CALIBRATION MODE

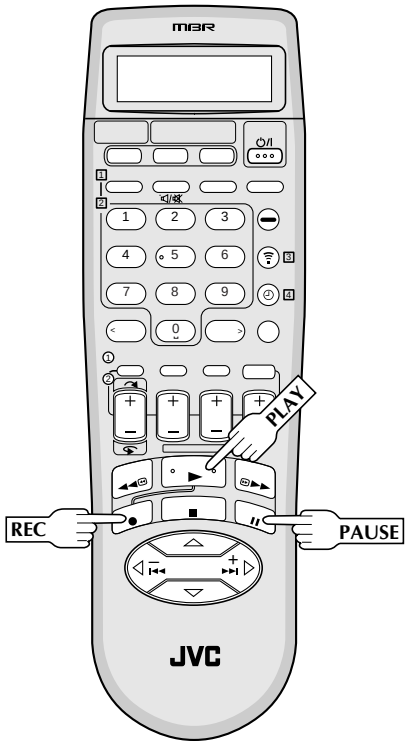
1) On the VHS Set Up 1 screen, move the arrow to “VIDEO CALIBRATION” by pressing △▽ (or ▲▼), then press **OK**.
2) Pressing △▽ (or ▲▼) to select the desired mode, then press **OK**.



5 RETURN TO NORMAL SCREEN

Press **MENU**.





Playback

The recorder assesses the quality of the tape once you start playback.

Perform steps **1** – **3** on page 34 ("Simple Playback") before continuing.

1 START PLAYBACK

Press **PLAY**.

- The recorder adjusts the playback picture quality based on the quality of the tape in use.

—VIDEO CALIBRATION —

NOTES:

- *When using rental tapes, or tapes recorded on other VCRs, set "VIDEO CALIBRATION" in step **3** of the Preparation procedure to either "ON" or "OFF" as desired to give the best picture (☞ pg. 47).*
- *The Video Calibration screen only appears at the beginning of automatic tracking. Even though the screen doesn't appear after that, the Video Calibration function is operative.*
- *To display the Video Calibration screen, "SUPERIMPOSE" must be set to "ON" or the Video Calibration screen will not appear (☞ pg. 41.)*

Recording

Perform steps **1** – **4** on page 35 ("Simple Recording") before continuing.

1 START RECORDING

Press and hold **REC** and press **PLAY** on the remote control, or press **REC** on the recorder's front panel.

- The recorder takes about 7 seconds to assess the quality of the tape in use, then recording begins with the picture level optimized.

DURING CALIBRATION

START END
ACTIVE VIDEO CALIBRATION

CALIBRATION COMPLETE

START END
ACTIVE VIDEO CALIBRATION

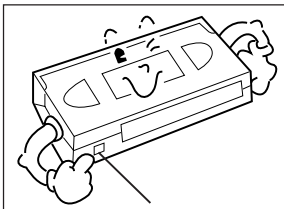
NOTES:

- *Calibration occurs immediately prior to both the first SP and the first EP recording after inserting the cassette. It does not take place during recording.*
- *In the case of timer recording, calibration takes place for both SP and EP before the first timer recording after inserting the cassette (regardless of the tape speed selected for that recording).*
- *Once the cassette is ejected, the calibration data is canceled. The next time the cassette is used for recording, calibration is re-performed.*
- *While Video Calibration is operative, the **PAUSE** button will not function.*
- *To display the Video Calibration screen, "SUPERIMPOSE" must be set to "ON" or the Video Calibration screen will not appear (☞ pg. 41).*

ATTENTION

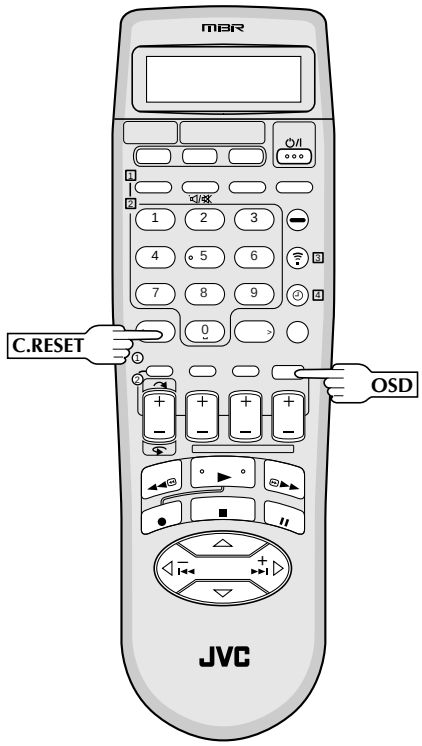
- As calibration takes place before recording actually starts, there is a delay of about 7 seconds after **REC** and **PLAY** on the remote, or **REC** on the recorder's front panel, are pressed. To make sure you record the desired scene or program completely, first perform the following steps:
  1) Press and hold **PAUSE**, and press **REC** to engage the RECORD PAUSE mode.
     - The VCR then automatically checks the condition of the tape and, after about 7 seconds, re-enters RECORD PAUSE.
  2) Press **PLAY** to start recording.
- If you want to bypass Video Calibration and start recording right away, set "VIDEO CALIBRATION" to "OFF" in step **3** of the Preparation procedure (☞ pg. 47).

Accidental erasure prevention



- **VHS/S-VHS**
  To prevent accidental recording on a recorded cassette, remove its safety tab. To record on it later, cover the hole with adhesive tape.

Recording Features



Record One Program While Watching Another

1 ENGAGE TV MODE

During recording...

- Change the TV's input mode from AV to TV.

2 SELECT CHANNEL FOR VIEWING

Use the TV's channel selector to set the channel you want to watch.

Display Elapsed Recording Time

1 RESET COUNTER TO ZERO

Before recording starts, press **C.RESET**. The counter resets to zero and displays the exact elapsed time as the tape runs.

2 DISPLAY ELAPSED TIME ON SCREEN

During recording, press **OSD** at any time to see the elapsed time.
All indications corresponding to the current status of the recorder are displayed for 5 seconds. The counter display remains on the screen indicating the elapsed time. Press **OSD** again to remove the display.

- Make sure "SUPERIMPOSE" is set to "ON" (☞ pg. 41).
- The indications are not recorded.
- Press **OSD** to change to the COUNT display if "REMAIN" is displayed.

Display Tape Remaining Time (VHS deck only)

1 DISPLAY COUNTER INFORMATION

Press **OSD**.
All indications corresponding to the recorder's current status are displayed for 5 seconds. The counter display remains on the screen indicating the elapsed time.

2 DISPLAY TAPE REMAINING TIME

Press **OSD** repeatedly until "REMAIN" appears on screen. The approximate tape remaining time appears on the TV screen and also on the recorder display panel with a "▱" indicator.

- The tape remaining time is calculated based on the tape speed (SP or EP) being used. The indicated remaining time is only an estimate.
- Press **OSD** to change the on-screen display from "REMAIN" to "COUNT" and vice versa; and to show counter reading, channel number, clock time or tape remaining time on the front display panel. Then channel number will not be displayed when the recorder is playing a tape.

3 EXIT THE DISPLAY

Press **OSD** again.

NOTES:

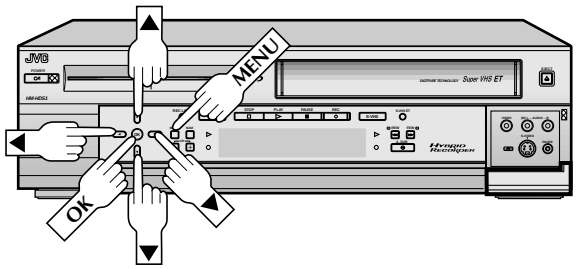
- *"SUPERIMPOSE" must be set to "ON", or the on-screen display will not appear (☞ pg. 41).*
- *Near the beginning of the tape, the tape remaining estimate may be inaccurate. However, the estimate becomes more accurate as the tape comes closer to the end.*
- *Depending on the type of tape used, the tape remaining time reading may not appear right away, or may not be correct. "- -:- -" may sometimes appear, or the display may blink on occasion.*
- *The tape remaining time indication is not accurate when using VHS-C tapes with VHS-C adapter.*

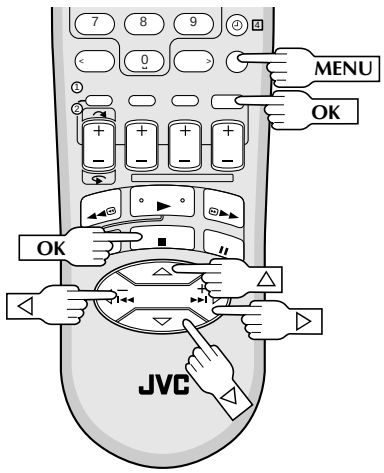
S-VHS (Super VHS), S-VHS ET and VHS

Your recorder can record in S-VHS, S-VHS ET or VHS.

S-VHS allows you to make high quality video recordings with a horizontal resolution of 400 lines. This compares with the 240 lines of resolution of normal VHS recordings. To achieve the highest quality picture we recommend that you record in S-VHS mode.

By using S-VHS ET it is possible to record and play back with S-VHS picture quality on VHS cassettes with this recorder. For details, refer to the next page.



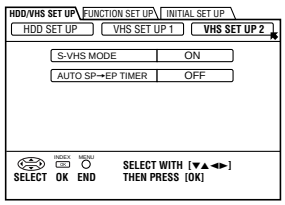


1 ACCESS MAIN MENU SCREEN

Press **MENU**.

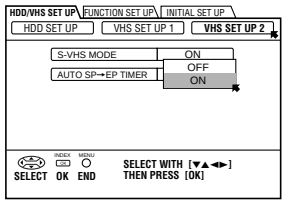
2 ACCESS VHS SET UP 2 SCREEN

1) At the top of the Main Menu screen, move the arrow to “HDD/VHS SET UP” by pressing ◁▷ (or ◀▶), then press ▽ (or ▼) or **OK**.
2) On the HDD/VHS Set Up screen, move the arrow to “VHS SET UP 2” by pressing ◁▷ (or ◀▶), then press ▽ (or ▼) or **OK**.



3 SELECT S-VHS MODE

1) On the VHS Set Up 2 screen, move the arrow to “S-VHS MODE” by pressing △▽ (or ▲▼), then press **OK**.
2) Pressing △▽ (or ▲▼) to select the desired mode, then press **OK**.



4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTE:

When playing back a tape that has been recorded in S-VHS or S-VHS ET, the S-VHS indicator lights on the display panel regardless of the “S-VHS MODE” setting.

To record in S-VHS;
- perform the steps **1 – 4** below to set the “S-VHS MODE” to “ON”.
- then, insert a cassette marked “S-VHS”, the S-VHS indicator will light on the display panel.

The S-VHS recording mode will be automatically selected.

To record in S-VHS ET on a VHS high grade cassette;
- press **S-VHS ET** and set to “ON”.

☞ “Super VHS ET” on the next page.

To record in VHS;
- insert a cassette marked “VHS”.
- press **S-VHS ET** and set to “OFF”.

The VHS recording mode will be automatically selected regardless of the S-VHS mode setting.

To record in VHS on an S-VHS cassette;
- insert the cassette marked “S-VHS”, the S-VHS indicator will light on the display panel.
- then, perform the steps **1 – 4** below to set the “S-VHS MODE” to “OFF”; the S-VHS indicator will go out.

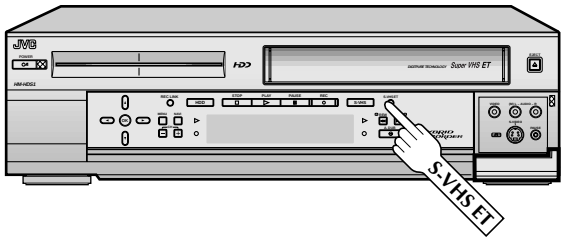
The VHS recording mode will be selected.

NOTE:

Tapes recorded in S-VHS or S-VHS ET mode can not be played back successfully on normal VHS VCRs.

Super VHS ET

Your recorder is equipped with Super VHS ET that makes it possible to record with S-VHS picture quality on VHS cassettes.



1 ENGAGE S-VHS ET MODE

Press **S-VHS ET** on the front panel. You can check the current setting ("S-VHS ET : ON" or "S-VHS ET : OFF") if "SUPERIMPOSE" is set to "ON" (pg. 41). If "S-VHS ET : OFF" appears on the TV screen, press **S-VHS ET** again in about 5 seconds later to set it "ON".

- The S-VHS indicator lights up on the front display panel.

To cancel **S-VHS ET**, press the button again.

NOTES:

- *You cannot activate the S-VHS ET function...*
  ...while recording is in progress.
  ...while timer-recording (incl. Instant Timer Recording ☞ pg. 64) is in progress.
  ...while Video Calibration (☞ pg. 47) is in progress.
  ...when the recorder's power is off.
- *S-VHS ET does not work with S-VHS tapes.*

S-VHS ET

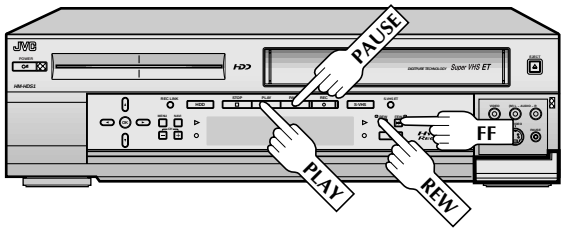
This facility allows recording with S-VHS picture quality on VHS cassettes. You can play back those cassettes recorded in S-VHS ET on a VCR equipped with S-VHS ET.

NOTES:

- *To obtain the highest quality recording and playback pictures over a longer period on this model, S-VHS recording on S-VHS tape is recommended.*
- *You can play back S-VHS ET recordings not only on this recorder but also on another VHS VCR equipped with S-VHS ET.*
  ** It is recommended to specifically label S-VHS ET recordings so you can easily distinguish them from regular VHS recordings.*
- *S-VHS ET recordings can also be played back on an S-VHS VCR or a VHS VCR equipped with SQPB (S-VHS QUASI PLAYBACK) function. However, there may be cases where S-VHS ET playback is not possible on a particular VCR.*
- *Frequent still, frame-by-frame and slow-motion playback may damage the tape and cause picture degradation.*
- *With some tapes, better picture quality may not be obtained even with S-VHS ET recording. It is recommended that you do test record beforehand to make sure whether better results can be obtained.*
- *High Grade tapes are recommended for superior results.*
- *Make sure that "VIDEO CALIBRATION" is set to "ON" at the Function screen (☞ pg. 47).*
- *During S-VHS ET playback, noise may appear depending on tape quality.*
- *Noise may appear during still, frame-by-frame and slow-motion playback.*
- *If the playback picture becomes blurred or interrupted, use a cleaning cassette.*

Retake (VHS deck only)

You can cut out unnecessary parts of a TV program while you're recording it.



1 ENGAGE RECORD-PAUSE MODE

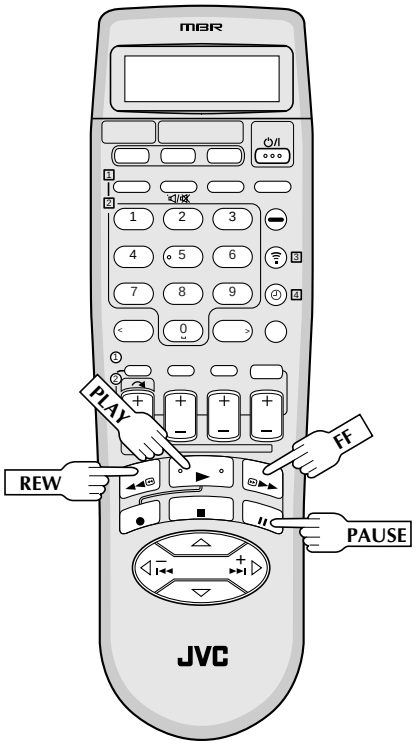
Press **PAUSE** during recording.

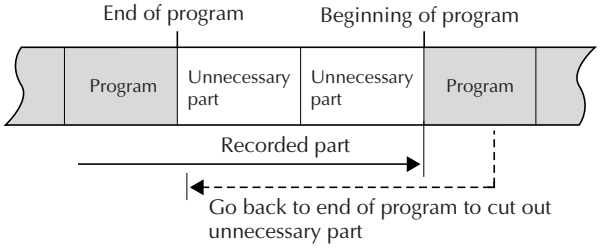
2 LOCATE START POINT

Hold down **REW** or **FF** and release it when you reach the point where you want to resume recording.
* Your recorder returns to the Record-Pause mode.

3 RESUME RECORDING

Press **PLAY** when you wish to resume recording.





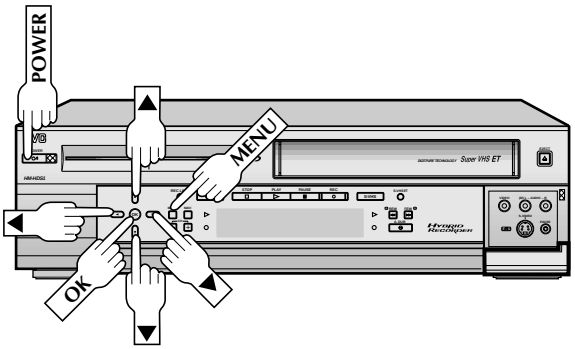
Stereo And SAP (Second Audio Program)

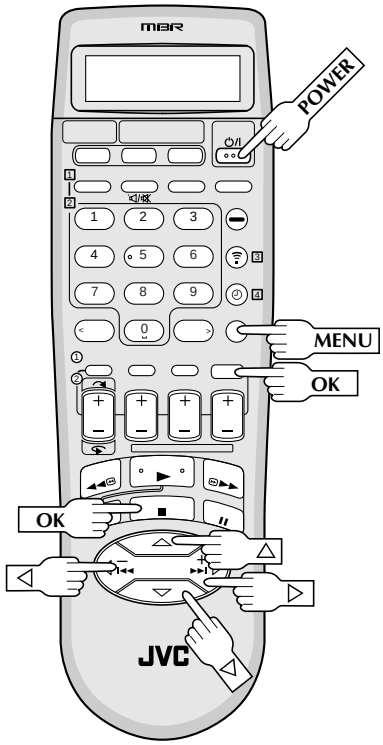
Your recorder's built-in MTS decoder enables reception of Multichannel TV Sound broadcasts.
When the channel is changed on the recorder ...

- The "STEREO" indication appears on the screen for about 5 seconds if the program is a stereo broadcast.
- The "SAP" indication appears on the screen for about 5 seconds if the program is a SAP broadcast.
- Both indications appear when a stereo program is accompanied by SAP audio.

To Record Stereo Programs . . .
. . . simply follow the basic recording procedure.

To Listen To Stereo Soundtrack During Recording . . .
. . . press **A. MONITOR** to select "HI-FI" (☞ pg. 46).





1 TURN ON THE RECORDER

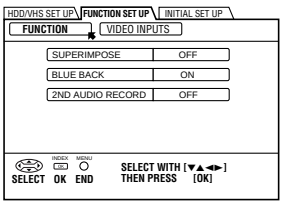
Press **POWER**.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

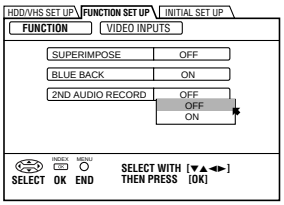
3 ACCESS FUNCTION SCREEN

1) At the top of Main Menu screen, move the arrow to "FUNCTION SET UP" by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.
2) On the Function Set Up screen, move the arrow to "FUNCTION" by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.



4 SELECT 2ND AUDIO RECORD MODE

1) On the Function screen, move the arrow to "2ND AUDIO RECORD" by pressing △▽ (or ▲▼), then press **OK**.
2) Press △▽ (or ▲▼) to select the desired mode, then press **OK**.



5 RETURN TO NORMAL SCREEN

Press **MENU**.

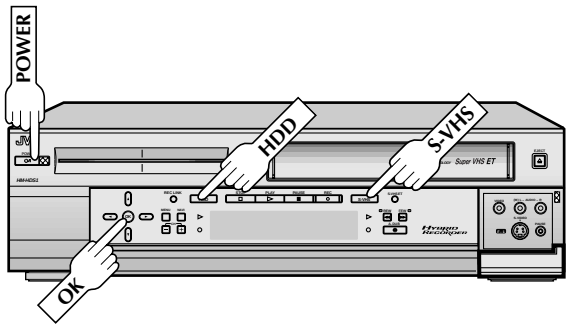
NOTES:

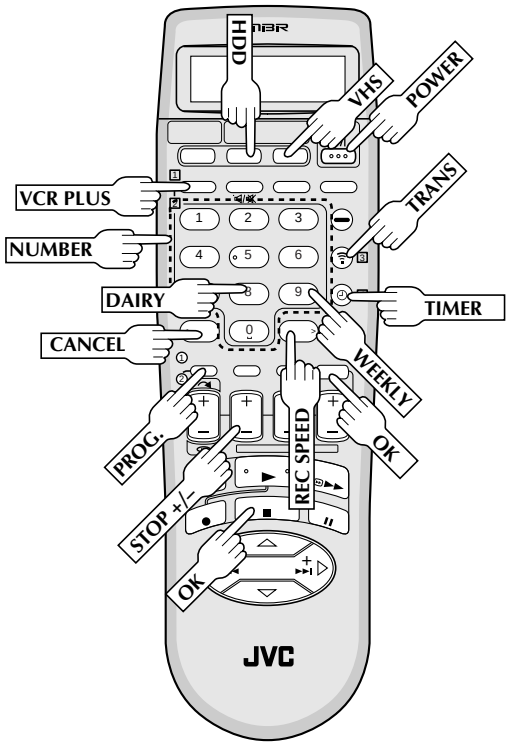
- *If a SAP program is received and "2ND AUDIO RECORD" is set to "ON", the SAP audio is recorded on both the Normal and Hi-Fi tracks. The main audio program is not recorded.*
- *If a non-SAP program is received, the main audio is recorded on both the Hi-Fi and Normal audio tracks.*

VCR Plus+® Timer Programming

Timer recording allows you to program the recorder to automatically record a program that will be broadcast at some future time. The timer record function can be programmed using the VCR Plus+ or Express Timer programming (☞ pg. 58) up to 16 shows each on the HDD and VHS decks as far as a year in advance. The VCR Plus+ timer programming system eliminates the need to input channel, date, start and stop time data when setting the timer record function. Simply key in the PlusCode number for the TV program you wish to record and the recorder's timer will be automatically programmed. (The PlusCode programming numbers are the numbers next to the program in most TV listing.)

Turn on the TV and select the AV mode.





1 TURN ON THE RECORDER

Press **POWER**.

2 SELECT THE DECK

Press **HDD** or **VHS** (or **S-VHS**).

3 ACCESS VCR PLUS+ SCREEN

Press **VCR PLUS** on the remote control. The indication for VCR PLUS+ appears on the display window of the remote control.

4 ENTER PLUSCODE NUMBER

Press the appropriate **NUMBER** keys to enter the PlusCode number printed in the TV listings for the TV program you wish to record.

- To make corrections, press **CANCEL** and input the correct PlusCode number.
- If you want to stop programming the timer recording, press **VCR PLUS** on the remote control. The indication on the remote control disappears.

5 TRANSFER THE PLUSCODE TO THE UNIT

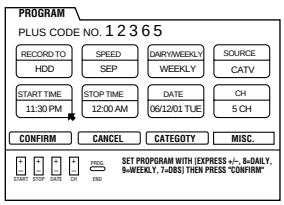
Press **TRANS** to transmit the PlusCode number from the remote control to the recorder.

If "SET GUIDE CHANNEL THEN RETRY" appears on the screen, perform VCR Plus+ setup procedure. (☞ page 56.)

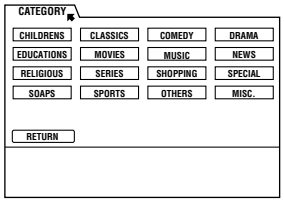
When "PROGRAM FULL DELETE UNWANTED TIMER PROGRAM" appears on the screen, you need to cancel some of the reserved programs. (☞ page 61.)

6 CHECK PROGRAM DATA

The PlusCode number you entered and the matching Timer-Recording information are displayed on the Program screen. Check to make sure their correct.



- To change the stop time, press **STOP +/–**.
- To timer-record daily or weekly serials, press **DAILY** (**NUMBER** key “8”) or **WEEKLY** (**NUMBER** key “9”). “DAILY” or “WEEKLY” appears on the Program screen. Pressing the button again makes each corresponding display disappear.
- You can also set category.
  1) Press ◁▷ (or ◄►) to move the arrow to “CATEGORY”, then press **OK**. The Category Set screen appears.
  2) Select the desired category by pressing ◁△▷▽ (or ◄▲►▼), then press **OK**.
  2) Confirm the arrow is on the “RETURN”, then press **OK**. The Program screen resumes.



- If you want to cancel this reservation, move the arrow to “CANCEL” by pressing ◁▷ (or ◄►), then press **OK**. Or, press **PROG**.

7 SET TAPE SPEED

Press **REC SPEED**. Each time the button is pressed, the recording speed changes as follows:

For HDD deck:

SP → LP → EP → SEP → SP → ···

For VHS deck:

SP → EP → SP → ···

8 RETURN TO NORMAL SCREEN

Move the arrow to “CONFIRM” by pressing ◁△▷▽ (or ◄▲►▼), then press **OK**. “PROGRAM COMPLETED” appears on the screen for a while, then normal screen appears.

- If there is a conflict in the timer schedule and one program overlaps with another, the correction screen will appear. In this case, correct the program data. See page 60.
- If you select **VHS** deck, press **TIMER**. The recorder turns off automatically and "⏲" is displayed on the display panel.

IMPORTANT

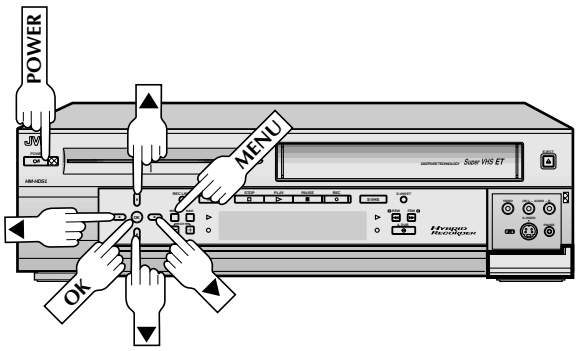
If you have moved to a different area or if a broadcasting station´s channel number has been changed, the wrong VCR or CABLE CH number will be displayed on the VCR Plus+ program screen in step **6**. When this happens, set the correct the Guide Channel number for that station. (☞ pg. 56, “Changing VCR Plus+® Setting”)

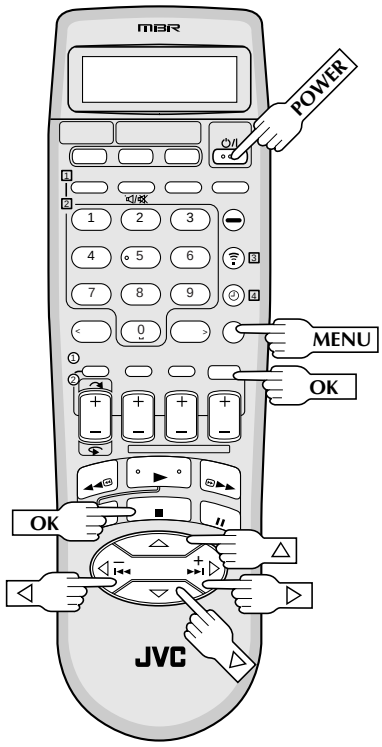
NOTES:

- *To disengage the timer before recording starts, press* **TIMER** *again. Pressing once more re-engages it.*
- *In case of a power failure after programming, the recorder's memory backup keeps your selections for approximately 60 minutes.*
- *When timer-recording cable channels received through a Cable Box, be sure to keep the Cable Box set to ON.*
- *It is not possible to timer-record the same programme on both the VHS deck and the HDD deck simultaneously.*
- *If the times that are programmed for recording on the HDD deck and on the VHS deck overlap, the earlier start time takes precedence. If the start times are the same, the VHS deck takes precedence.*

Changing VCR Plus+® Setting

Turn on the TV and select the AV mode.





IMPORTANT

If you have moved to a different area or if a broadcasting station's channel number has been changed, the wrong VCR or CABLE CH number will be displayed on the VCR Plus+ program screen (☞ step **6** on page 55). When this happens, perform the following steps to set the correct the Guide Channel number for that station.

To ensure that the VCR Plus+Timer Recording operates correctly it is necessary to set the VCR Plus+ "Guide Channel Set" for each station. Please read the following information carefully.

VCR Plus+ Guide Channel Matching

VCR Plus+ programming system assigns a VCR Plus+ "Guide Channel" to broadcast and cable TV channels. These Guide Channel numbers are also called the VCR Plus+ Channel Codes. Most TV listings have a section, usually a chart, indicating the "Guide Channel" numbers assigned to each station. For accurate VCR Plus+ programming the VCR Plus+ Guide Channel number for each station should match the channel number on which it is received in your area.

NOTES:

- *In many instances the VCR Plus+ Guide Channel numbers for cable and broadcast TV stations **DO NOT** match the channel number on which it is received by your recorder or cable box. Check your TV listing, or contact your cable supplier for details.*
- *Many broadcast TV stations can be viewed on cable. Check your TV listing, or contact your cable supplier for details.*

1 TURN ON THE RECORDER

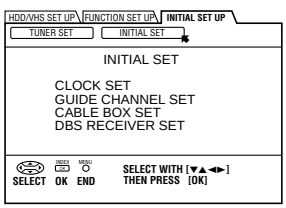
Press **POWER**.

2 ACCESS MAIN MENU SCREEN

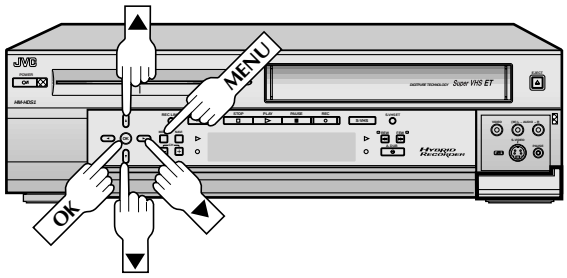
Press **MENU**.

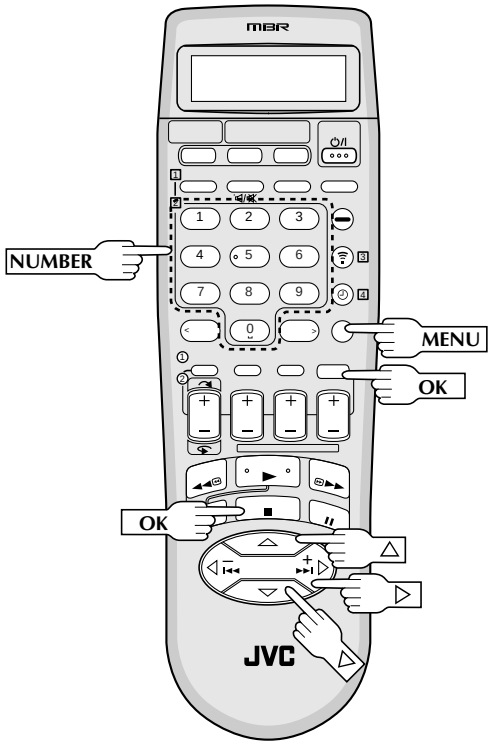
3 ACCESS INITIAL SET SCREEN

1) At the top of Main Menu screen, move the arrow to "INITIAL SET UP" by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.



2) At the Initial Set Up screen, move the arrow to "INITIAL SET" by pressing ◁▷ (or ◄►), then press **OK**.





4 ACCESS GUIDE CHANNEL SET SCREEN

Press △▽ (or ▲▼) to move the arrow to "GUIDE CHANNEL SET", then press ▷ (or ►) or **OK**.

```
INITIAL SET

  CLOCK SET
→ GUIDE CHANNEL SET
  CABLE BOX SET
  DBS RECEIVER SET

SELECT WITH[▲,▼]  THEN[OK]
PRESS[MENU] TO END
```

5 INPUT GUIDE CHANNEL NUMBER

Press △▽ (or ▲▼) or the appropriate **NUMBER** keys to input the VCR Plus+ Guide Channel number as shown in the TV listing. Then press ▷ (or ►) or **OK**.

(Ex.) When inputting the Guide Channel number 6 for WNJU(Ind.)

```
GUIDE CHANNEL SET

GUIDE CH:  6
CABLE CH:  —

PRESS NUMBER KEY(0-9)
 OR(▲,▼),  THEN(OK)
PRESS(MENU) TO END
```

- If you receive your channels with a cable box and if you do not have properly set your Controller, "CABLE CH" appears in place of "VCR CH". If so, refer to pages 15 – 17 and re-perform the procedure.

6 INPUT RECEIVING CHANNEL NUMBER

Press △▽ (or ▲▼) or the appropriate **NUMBER** keys to input the number of the channel on which the Guide Channel's broadcasts are received. Then press ▷ (or ►) or **OK**.

(Ex.) If WNJU(Ind.) is received on channel 47

```
GUIDE CHANNEL SET

GUIDE CH:  6
CABLE CH:  47

PRESS NUMBER KEY(0-9)
 OR(▲,▼),  THEN(OK)
PRESS(MENU) TO END
```

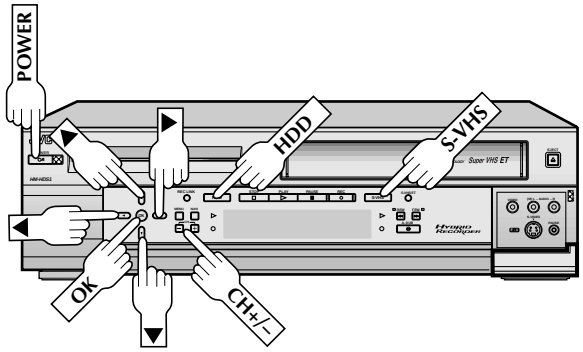
- Repeat steps **5** and **6** for each instance.

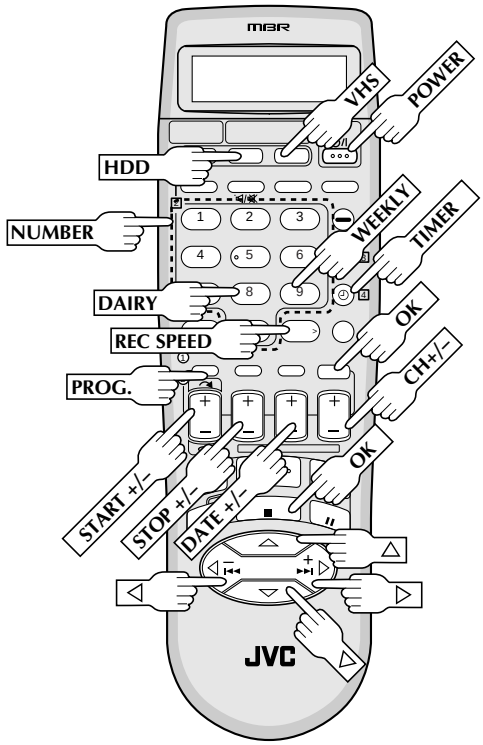
7 RETURN TO NORMAL SCREEN

Press **MENU** twice.

Express Timer Programming

Turn on the TV and select the AV mode.





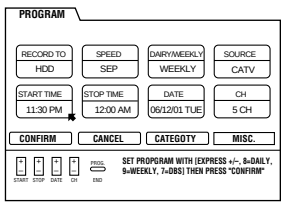
You can directly program the recorder's timer to record up to 16 shows each on the HDD and VHS decks, as far as a year in advance. Remember, the clock must be set before you can program the timer (☞ pg. 10 or 12).

1 TURN ON THE UNIT

Press **POWER**.

2 ACCESS PROGRAM SCREEN

Press **PROG.** on the remote control. The program screen appears.



- If you do not set the clock, the message and the Initial Set screen will appear.
- If you have already reserved 16 programs, the message and the program check screen will appear.
- If you want to reset this reservation during this procedure, move the arrow to "CANCEL" by pressing ◁▷ (or ◄►), then press **OK**.
- If you want to cancel this reservation, press **PROG.**.

3 SELECT THE DECK TO BE RECORDED ON

Press **HDD** or **VHS** (or **S-VHS**).

- If you select VHS deck, load the cassette for recording.

4 SET PROGRAM DATE

Press **DATE +/–**. (The current date is displayed on screen. The date you enter appears in its place.)

- If the date of the next year appears, press **DATE +**.

5 SET PROGRAM START TIME

Press **START +/–** to enter the time you want recording to start.

- Press and hold **START +/–** to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.

6 SET PROGRAM STOP TIME

Press **STOP +/–** to enter the time you want recording to stop.

- Press and hold **STOP +/–** to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.

7 SET CHANNEL NUMBER

Press **CH +/–**.

- If you are using a DBS receiver, see "ATTENTION FOR DBS RECEIVER USERS" on next page.
- Holding down **CH +/–** rapidly scans through the channels.

8 SET TAPE SPEED

Press **REC SPEED** to set the tape speed. Each time the button is pressed, the recording speed changes as follows:

For HDD deck:

SP → LP → EP → SEP → SP → ···

For VHS deck:

SP → EP → SP → ···

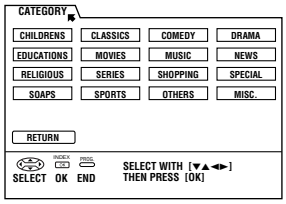
9 SET WEEKLY OR DAILY

Press **WEEKLY** (**NUMBER** "9") for weekly serials or **DAILY(M-F)** (**NUMBER** "8") for daily serials (Monday–Friday).

- When **WEEKLY** is selected in the HDD deck recording, the recorder reserves certain space corresponding to one-program-period, then writes new data over the recorded data every week.
- When **DAILY(M-F)** is selected in the HDD deck recording, the unit reserves certain space corresponding to five-programs-periods, then writes new data over the recorded data everyday (from Monday to Friday).
- When index picture for a Weekly or Daily timer program is deleted, the index is assigned as "RESERVED".

10 SET CATEGORY

1) Press ◁▷ (or ◄►) to move the arrow to "CATEGORY", then press **OK**. The Category Set screen appears.
2) Select the desired category by pressing ◁△▷▽ (or ◄▲►▼), then press **OK**. The Program screen resumes.



11 RETURN TO NORMAL SCREEN

Move the arrow to "CONFIRM" by pressing ◁△▷▽ (or ◄▲►▼), then press **OK**. "PROGRAM COMPLETED" appears on the screen for a while, then normal screen appears.

- If there is a conflict in the timer schedule and one program overlaps with another, the correction screen will appear. In this case, correct the program data. See page 61.
- If you select **VHS** deck, press **TIMER**. The recorder turns off automatically and "⏲" is displayed on the display panel.

NOTES:

- *To disengage the timer before recording starts, press* **TIMER** *again. Pressing once more re-engages it.*
- *In case of a power failure after programming, the recorder's memory backup keeps your selections for approximately 60 minutes.*
- *Programs that start after midnight must have the next day's date.*
- *After timer recording is completed, the recorder's power goes off automatically.*
- *You can program the timer while a regular recording is in progress; the on-screen menu will not be recorded.*
- *If the end of tape is reached during timer recording, the cassette is automatically ejected.*
- *When timer-recording cable or satellite channels through an external tuner, be sure to keep the cable box or satellite receiver's power ON.*

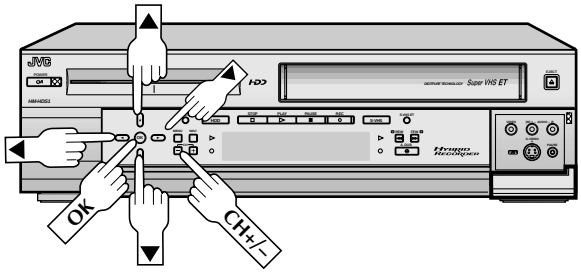
ATTENTION FOR DBS RECEIVER USERS

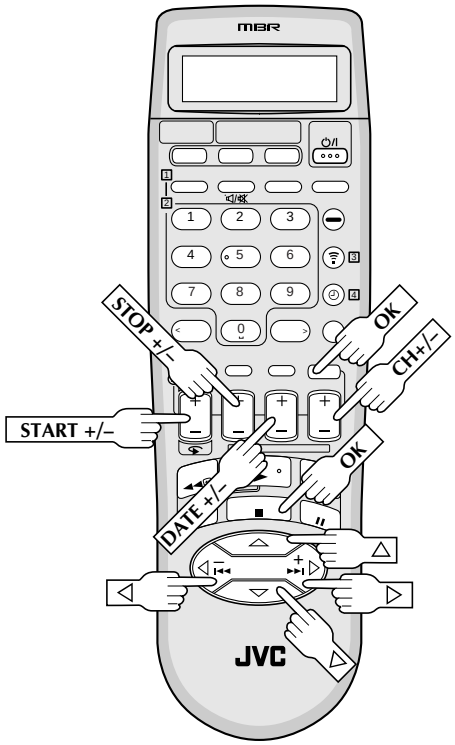
If you are using a DBS receiver (unless "DBS RECEIVER SET" is set to "OFF" ☞ pg. 19), the SOURCE indication (TV or CATV or DBS) appears above the channel number display. If the channel number that has been entered requires that the source be set, "7=DBS" is displayed on the screen. Press the **NUMBER** key "7" to select the desired source.

a– TV : To timer-record a regular TV program received on the recorder.
b– CATV : To timer-record a cable TV program received on the recorder, or through a cable box (unless "CABLE BOX SET" is set to "OFF" ☞ pg.16).
c– DBS : To timer-record a satellite program received through a DBS receiver.

- If "BAND" is set to "TV" at the Tuner Set screen (☞ pg.13) and "CABLE BOX SET" is set to "OFF" at the Cable Box Set screen (☞pg. 16), CATV will not be displayed on the Program screen; If "BAND" is set to "CATV" or "CABLE BOX SET" is set to "ON", TV will not be displayed.

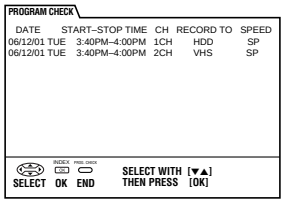
Check and Revise the Overlapped Programs





1 CHECK OVERLAP PROGRAM

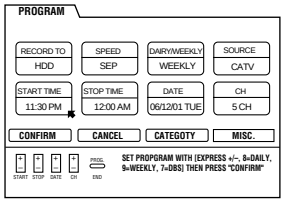
Check the program to be revised, then press **OK**. The program screen appears.



2 CANCEL OR REVISE THE PROGRAM

To cancel the program, move the arrow to select "CANCEL" by pressing ◁△▷▽ (or ◄▲►▼), then press **OK**.

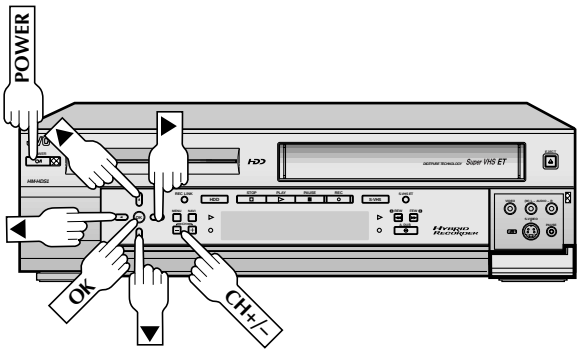
To revise the program, press the appropriate button: **START+/–**, **STOP+/–**, **DATE+/–**, **CH+/–**.

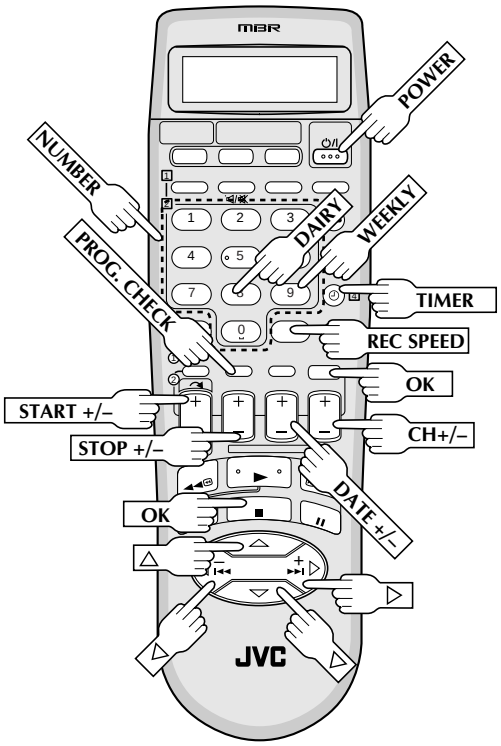


3 RETURN TO THE NORMAL SCREEN

Move the arrow to "CONFIRM" by pressing ◁△▷▽ (or ◄▲►▼), then press **OK**. If there is no program overlap, the normal screen will appear; otherwise, the unit will show the program check screen again.

Check, Cancel And Revise Programs





1 DISENGAGE TIMER (VHS DECK ONLY)

Press **TIMER**, then press **POWER**.

2 ACCESS PROGRAM CHECK SCREEN

Press **PROG. CHECK**.

3 ACCESS PROGRAM SCREEN

Press △▽ (or ▲▼) to select the program, then press **OK**.

PROGRAM CHECK

DATE	START–STOP TIME	CH	RECORD TO	SPEED
06/12/01 TUE	3:40PM–4:00PM	1CH	HDD	SP
06/12/01 TUE	3:40PM–4:00PM	2CH	VHS	SP

SELECT OK END — SELECT WITH [▼▲] THEN PRESS [OK]

To Cancel Or Revise A Program...

4 CANCEL OR REVISE A PROGRAM

To cancel the program, move the arrow to select "CANCEL" by pressing ◁△▷▽ (or ◄▲►▼), then press **OK**.

To revise a program, press the appropriate button: **START+/–**, **STOP+/–**, **DATE+/–**, **CH+/–**, **REC SPEED**, **WEEKLY** (**NUMBER** "9"), **DAILY(M-F)** (**NUMBER** "8").

PROGRAM

RECORD TO	SPEED	DAIRY/WEEKLY	SOURCE
HDD	SEP	WEEKLY	CATV
START TIME	STOP TIME	DATE	CH
11:30 PM	12:00 AM	06/12/01 TUE	5 CH

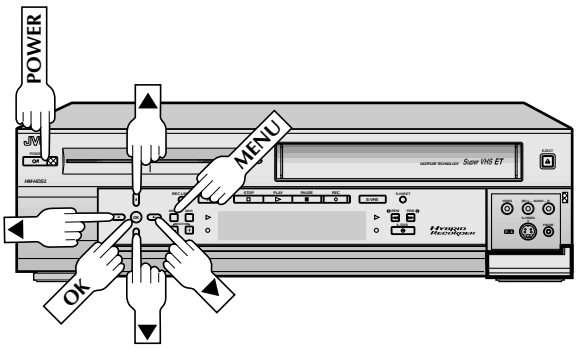
CONFIRM | CANCEL | CATEGOTY | MISC.

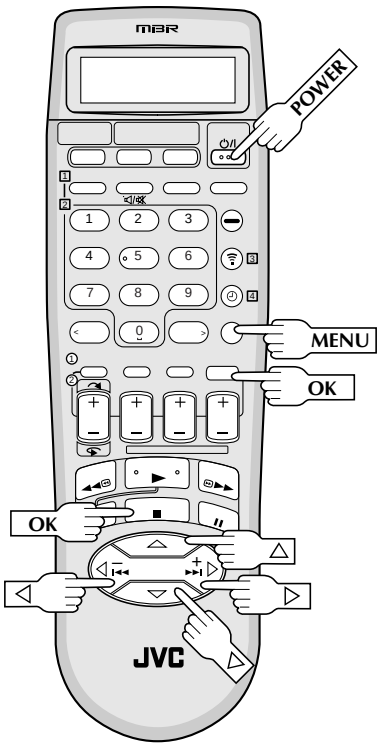
SET PROGRAM WITH [EXPRESS +/–, 8=DAILY, 9=WEEKLY, 7=DBS] THEN PRESS "CONFIRM"

5 RETURN TO NORMAL SCREEN

Move the arrow to "CONFIRM" by pressing ◁△▷▽ (or ◄▲►▼), then press **OK**. If there is no program overlap, the normal screen will appear; otherwise, the unit will show the program check screen again.

- If you have selected the VHS deck, press **OK**. The recorder turns off automatically and "◴" is displayed on the display panel.





NOTES:

- *If you have programmed the recorder to timer-record 2 or more programs, the second program and those thereafter may not fit on the tape if you set the Auto SP→EP Timer mode to "ON". In this case, make sure the mode is not engaged, then set the tape speed manually during timer programming.*
- *In order to ensure that the recording fits on the tape, this feature may leave a slight non-recorded section at the end of the tape.*
- *There may be some noise at the point on the tape where the VCR switches from SP to EP mode.*
- *The Auto SP→EP Timer feature is not available during ITR (Instant Timer Recording), and the feature will work with the following tapes: T(ST)-30, T(ST)-60, T(ST)-90, and T(ST)-120.*

For Example . . .

Recording a program of 140 minutes in length onto a 120-minute tape

Approximately 110 minutes	Approximately 30 minutes
SP mode	EP mode

Total 140 minutes

Auto SP→EP Timer
(VHS deck only)

If, when recording in SP mode, there is not enough tape to record the entire program, the recorder automatically switches to EP mode to allow complete recording. This feature is especially handy when recording a program of more than 2 hours in length.

Make sure you set "AUTO SP→EP TIMER" to "ON" at the VHS Mode Set screen before the timer recording starts.

1 TURN ON THE RECORDER

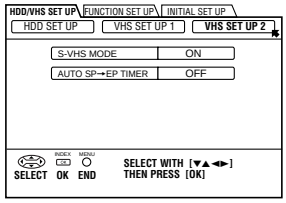
Press **POWER**.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

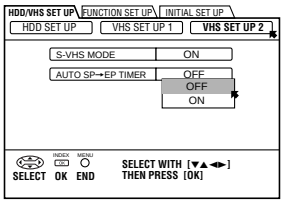
3 ACCESS VHS SET UP 2 SCREEN

1) At the top of the Main Menu screen, move the arrow to "HDD/VHS SET UP" by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.
2) On the HDD/VHS Set Up screen, move the arrow to "VHS SET UP 2" by pressing ◁▷ (or ◄►), then press ▽ (or ▼) or **OK**.



4 SELECT AUTO SP→EP TIMER MODE

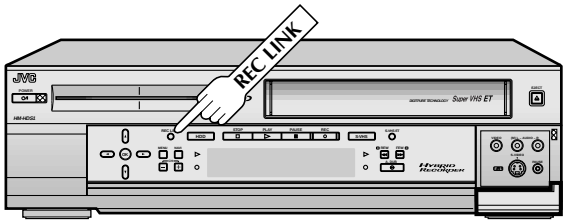
1) On the VHS Set Up 2 screen, move the arrow to "AUTO SP→EP TIMER" by pressing △▽ (or ▲▼), then press **OK**.
2) Pressing △▽ (or ▲▼) to select the desired mode, then press **OK**.

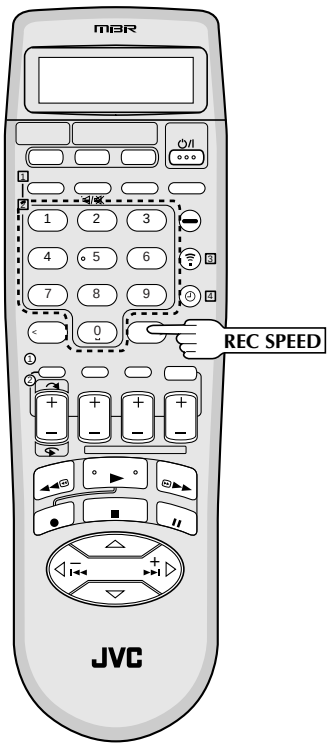


5 RETURN TO NORMAL SCREEN

Press **MENU**.

REC LINK Timer Recording (HDD deck only)





REC LINK enables the unit to record automatically from the external equipment with timer function.

In REC LINK mode, when the signals come into the unit from the external equipment, the unit automatically turns on and starts recording on HDD deck.

1 PREPARE THE EXTERNAL EQUIPMENT FOR TIMER RECORDING

After timer recording is set, turn off the external equipment connected to the unit.

2 ENGAGE REC LINK MODE

Press **REC LINK** for about two seconds. The REC LINK button lights up.

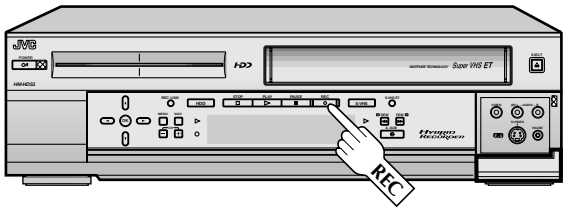
- While the signals are coming into the unit, the REC LINK button is blinking.
- If you want to change the recording speed, press **REC SPEED** on the remote control before pressing **REC LINK**.

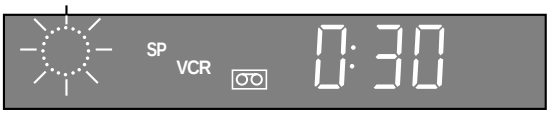
To cancel REC LINK mode, press **REC LINK** again.

NOTES:

- *You need to connect the external equipment with AUX L-1 terminals on the rear panel.*
- *When the recorder is in REC LINK mode, the recorder changes the deck into VHS deck automatically. In this case, you cannot use HDD deck until the REC LINK mode is canceled.*

Instant Timer Recording (ITR)





This easy method lets you record (selectable in 30-min. increments) and shuts the unit off after recording is finished.

1 START RECORDING

Press **REC** on the front panel.

2 ENGAGE ITR MODE

Press **REC** again. "◌" blinks and 0:30 appears on the front display panel.

3 SET RECORDING DURATION

If you want to record for more than 30 minutes, press **REC** to extend the time. Each press extends recording time by 30 minutes up to 6 hours.

NOTES:

- *You can only perform ITR using the* **REC** *button on the recorder´s front panel.*
- *After you set the ITR time, the previous display reappears.*
- *To check the remaining time, press* **REC** *once during recording and the remaining time will be displayed for about 5 seconds. Be careful not to press* **REC** *again within these 5 seconds, or you will round the recording time up to the next 30 minute increment.*
- *You can play a tape on one deck while using the other deck for Instant Timer Recording.*

About Hybrid Navigation

In the Simple Operations section, it is briefly described how to search for the beginning of each recorded program using the Navigation functions, but more detailed explanations are provided in this section using HDD Navigation by way of example.

This recorder has a built-in Hybrid Navigation system, which consists of two Navigation system: HDD Navigation and VHS Navigation. Using Navigation system, you can easily modify registered information or edit the program when dubbing from the HDD deck to VHS deck, as well as search for the beginning of each program.

About Registration of Information

The following information is automatically registered for each program when ordinary recording or timer recording is performed (for the VHS deck, when "NAVIGATION" is set to "ON" in the "VHS SET UP 1" of the main MENU), then stored in an area specified on the hard disk.

- index*: reduced still pictures to show program titles
- program title*
- category*
- date and time
- channel
- recording speed
- length of recording time

The items marked with an asterisk (*) can be easily modified and registered again after recording by using Navigation system.

About Editing of Programs

Navigation system has three functions for editing of programs: modification or deletion of information, dubbing easily from HDD deck to VHS deck, and random assemble editing. In the following section, those functions are mentioned.

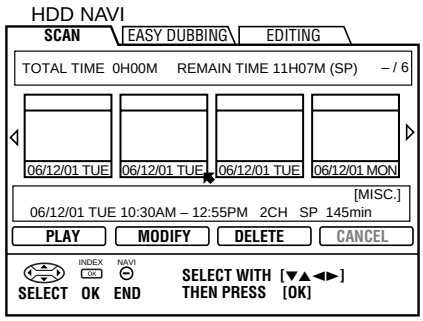
The Limitations of Registration

You can register information up to 60 programs in HDD Navigation. In VHS Navigation, you can register information up to 2000 programs or up to 680 cassettes.

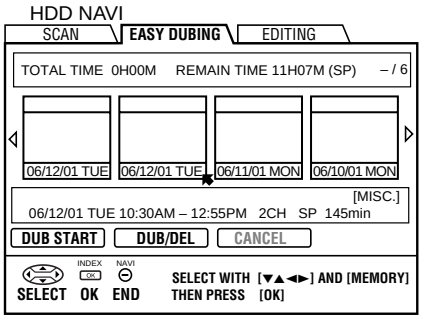
To register the information on VHS Navigation, you need record a program for more than 5 minutes in SP mode (for more than 15 minutes in EP mode).

When the amount of information is at the limits of registration, you cannot record new program any more. In this case, you need to delete old programs to register new one.

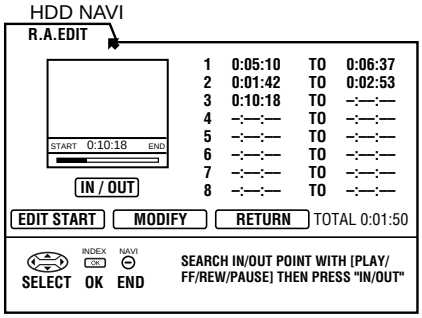
The display for modification or deletion



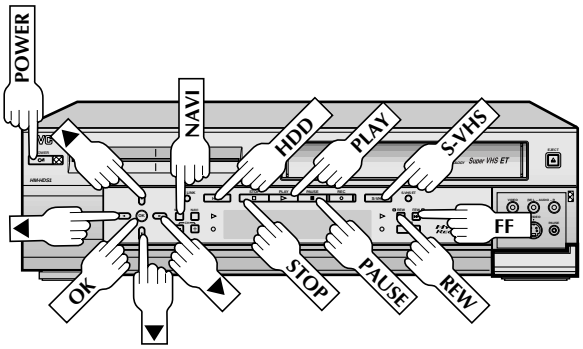
The display for EASY DUBBING

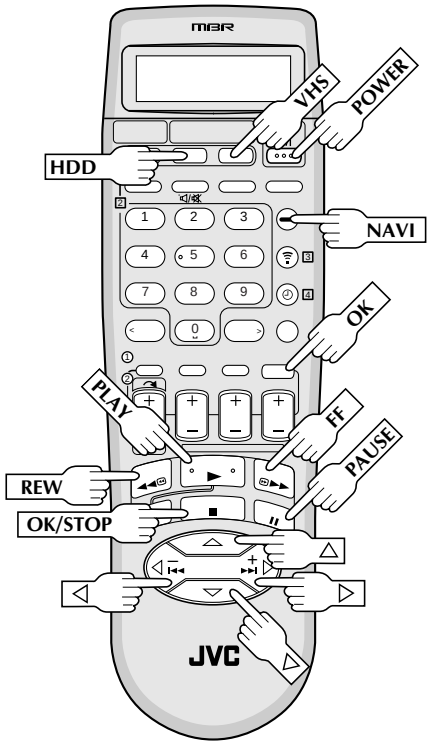


The display for EDITING



Modify Information





Modify Index

The Navigation systems cannot work while the recorder is recording on the HDD deck or in REC LINK mode.

1 TURN ON THE RECORDER

Press **POWER**.

2 SELECT DECK

Press **HDD** or **VHS** (or **S-VHS**).

- When you select the **VHS** deck, load the cassette you want to edit.

3 ACCESS NAVIGATION SCREEN

Press **NAVI**. The Navigation screen corresponding to the selected deck appears.

- For **VHS** deck, when "NAVIGATION" is set to "OFF", the Navigation screen does not appear.

4 SELECT PROGRAM

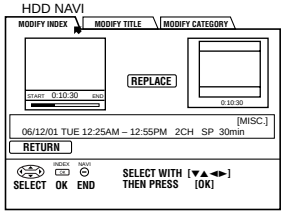
Press ◁△▷▽ (or ◄▲►▼) to move the arrow to select one program you want to modify, then press ▽ (or ▼) or **OK**.

5 ACCESS MODIFY SCREEN

1) Press ◁▷ (or ◄►) to move the arrow to "MODIFY", then press ▽ (or ▼) or **OK**.
2) Press ◁▷ (or ◄►) to move the arrow to "MODIFY INDEX", then press **OK**. The arrow moves to "REPLACE".

6 REGISTER NEW INDEX

1) Search for the picture from the program by pressing the appropriate buttons: **PLAY**, **FF**, **REW**, or **PAUSE**. The pictures of the program appear on the left window.
2) Confirm the arrow is on "REPLACE", then press **OK** to register new index. New index appears on the right window.



- When you press **OK** with the arrow on "RETURN" you can return the previous screen.

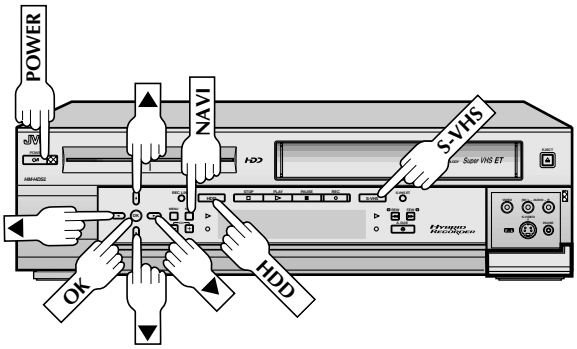
7 RETURN TO NORMAL SCREEN

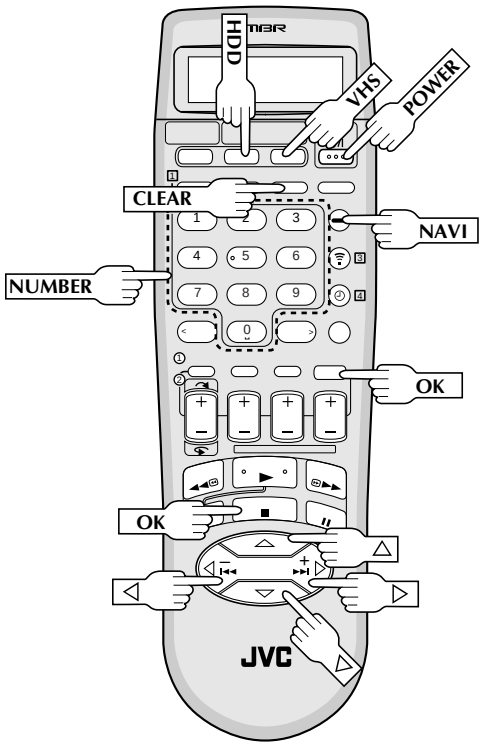
Press **NAVI**.

- When you select VHS deck, press **STOP** to cancel **PAUSE** after pressing **NAVI**.

Modify Program Title

The Navigation systems cannot work while the recorder is recording on the HDD deck or in REC LINK mode.





1 TURN ON THE RECORDER

Press **POWER**.

2 SELECT DECK

Press **HDD** or **VHS** (or **S-VHS**).

3 ACCESS NAVIGATION SCREEN

Press **NAVI**. The Navigation screen corresponding to the selected deck appears.

- For **VHS** deck, when "NAVIGATION" is set to "OFF", the Navigation screen does not appear.

4 SELECT PROGRAM

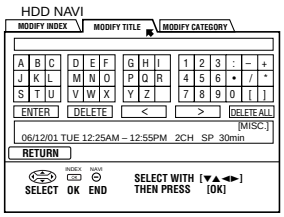
Press ◁△▷▽ (or ◄▲►▼) to move the arrow to select one program you want to modify, then press ▽ (or ▼) or **OK**.

5 ACCESS MODIFY SCREEN

1) Press ◁▷ (or ◄►) to move the arrow to "MODIFY", then press ▽ (or ▼) or **OK**.
2) Press ◁▷ (or ◄►) to move the arrow to "MODIFY TITLE", then press **OK**. The Modify Title screen appears.

6 ENTER NEW TITLE

Press ◁△▷▽ (or ◄▲►▼) to move the arrow to the desired letter or command, then **OK**. Repeat this process to complete the title.



- To correct a letter, press **CLEAR** on the remote control.
- You can enter the letters up to 15.
- You can enter the new title from the remote control. For example, when you press **2** repeatedly, "A","B","C","2","A" appears by turns. You can use the following buttons.

> **1**, **2**, **3**, **4**, **5**, **6**, **7**, **8**, **9**, **0** : for entering letters, numbers, marks (–, +, *) and blank
> **<**, **>** : for moving the entering or inserting point

7 REGISTER NEW TITLE

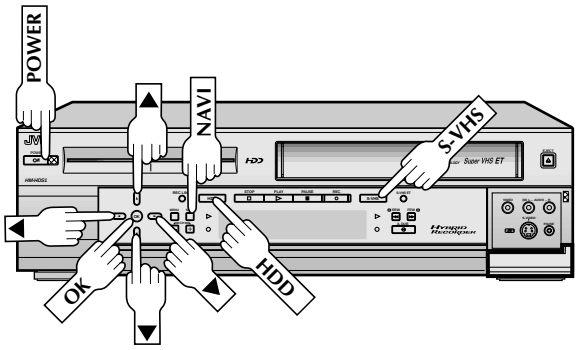
Press ◁△▷▽ (or ◄▲►▼) to move the arrow to "RETURN", then press **OK**. The Navigation screen appears again.

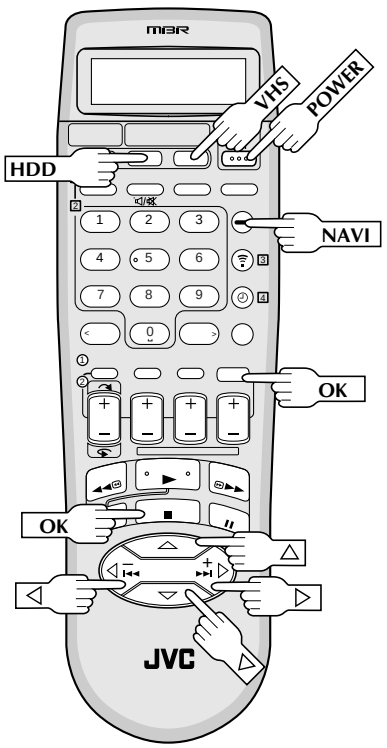
8 RETURN TO NORMAL SCREEN

Press **NAVI**.

Modify Category

The Navigation systems cannot work while the recorder is recording on the HDD deck or in REC LINK mode.





1 TURN ON THE RECORDER

Press **POWER**.

2 SELECT DECK

Press **HDD** or **VHS** (or **S-VHS**). The Navigation screen corresponding to the selected deck appears.

3 ACCESS NAVIGATION SCREEN

Press **NAVI**. The Navigation screen corresponding to the selected deck appears.

- For **VHS** deck, when "NAVIGATION" is set to "OFF", the Navigation screen does not appear.

4 SELECT PROGRAM

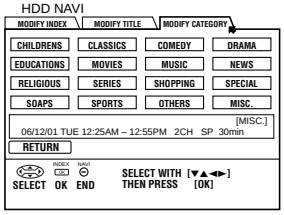
Press ◁△▷▽ (or ◄▲►▼) to move the arrow to select one program you want to modify, then press ▽ (or ▼) or **OK**.

5 ACCESS MODIFY SCREEN

1) Press ◁▷ (or ◄►) to move the arrow to "MODIFY", then press ▽ (or ▼) or **OK**.
2) Press ◁▷ (or ◄►) to move the arrow to "MODIFY CATEGORY", then press **OK**. The Modify Category screen appears.

6 SELECT NEW CATEGORY

Press ◁△▷▽ (or ◄▲►▼) to move the arrow to the new category, then press **OK**.



7 REGISTER NEW CATEGORY

Press ◁△▷▽ (or ◄▲►▼) to move the arrow to "RETURN", then **OK**. The Navigation screen appears again.

8 RETURN TO NORMAL SCREEN

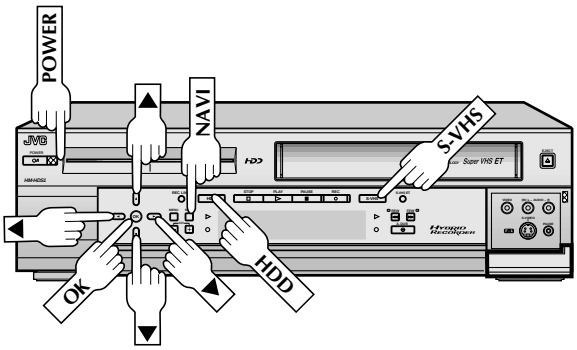
Press **NAVI**.

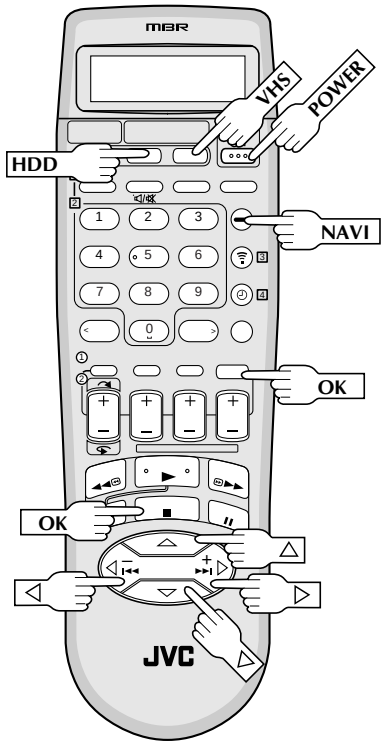
Delete Information

The Navigation systems cannot work while the recorder is recording on the HDD deck or in REC LINK mode.

For HDD Navigation:
When you delete the registered information of a program, the recorder delete the program itself on the hard disk drive. The deleted program is never resumed.

For VHS Navigation:
When you delete the registered information of a program, the recorder delete only the information on the hard disk drive. The program itself cannot be deleted with VHS Navigation.





1 TURN ON THE RECORDER

Press **POWER**.

2 SELECT DECK

Press **HDD** or **VHS** (or **S-VHS**). The indicator corresponding to the selected deck lights up.

3 ACCESS NAVIGATION SCREEN

Press **NAVI**. The Navigation screen corresponding to the selected deck appears.

- For **VHS** deck, when "NAVIGATION" is set to "OFF", the Navigation screen does not appear.

4 SELECT PROGRAM

Press ◁△▷▽ (or ◀▲▶▼) to move the arrow to select one program whose information you want to delete, then press ▽ (or ▼) or **OK**.

- For **VHS** deck, you can delete all the information of a cassette at the "CASSETTE #".

5 ACCESS DELETE SCREEN

Press ◁▷ (or ◀▶) to move the arrow to "DELETE", then press **OK**. The message appears for your confirmation.

6 CONFIRM DELETION

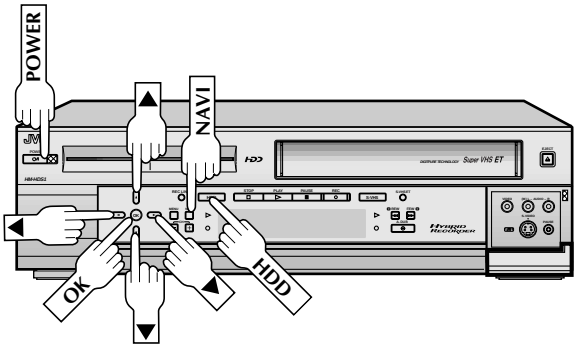
Press ◁▷ (or ◀▶) to select "DELETE", then press **OK**.

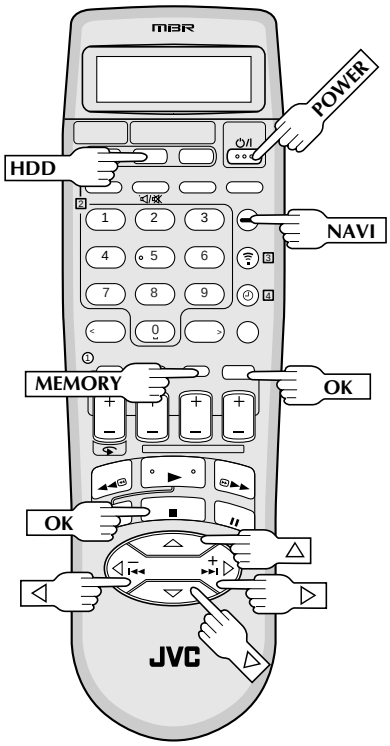
- When you cancel the deletion, select "CANCEL", then press **OK**.

7 RETURN TO NORMAL SCREEN

Press **NAVI**.

Dubbing





Easy Dubbing from HDD deck to VHS deck

Because this recorder includes both HDD deck and VHS deck, you can easily use it for dubbing without connecting any other equipment.

1 TURN ON THE RECORDER

Press **POWER**.

2 ACCESS HDD NAVIGATION SCREEN

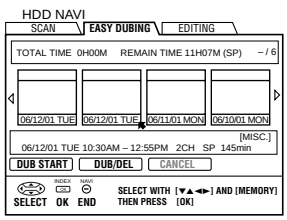
Press **HDD**, then press **NAVI**. The HDD Navigation appears.

3 ACCESS EASY DUBBING SCREEN

Press ◁▷ (or ◄►) to move the arrow to “EASY DUBBING”, then press **OK**. The Easy Dubbing screen appears.

4 SELECT PROGRAM(S)

Press ◁▷ (or ◄►) to move the arrow to the desired program, then press **OK**.

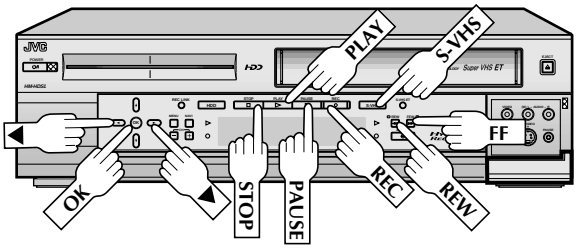


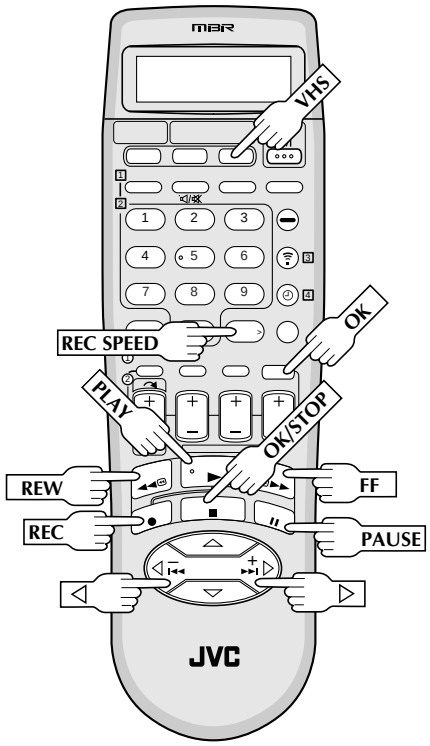
- When you want to select the plural programs, press **MEMORY** on the remote control after selecting the desired program. The numbers of the playback order appear on the index. You can select up to 8 programs.
- When you want to correct the order, after moving the arrow on the numbered index, press **MEMORY** on the remote control, or move arrow to “CANCEL” by pressing ◁△▷▽ (or ◄▲►▼), then press **OK**. The number disappears and the recorder re-numbers the other programs automatically.

5 SELECT DUBBING OPTION

Press ◁△▷▽ (or ◄▲►▼) to move the arrow to select “DUB START” or “DUB/DEL”, then press **OK**. The message for preparing a cassette appears.

- When “DUB START” is selected, the programs remains on the hard disk after dubbing.
- When “DUB/DEL” is selected, the unit delete the programs on the hard disk after dubbing automatically.





6 SELECT VHS DECK

Press **VHS** (or **S-VHS**).

7 LOAD A CASSETTE

Insert a recordable VHS (or S-VHS) cassette.

8 SELECT REC SPEED

Press **REC SPEED** on the remote control.

9 LOCATE START POINT

1) Search the point where you want to start dubbing by pressing **PLAY**, **FF**, **REW**, then press **STOP**.
2) Press **REC** and **PAUSE** simultaneously to enter the Record-Pause mode.

10 SELECT HDD DECK

Press **HDD**. The screen in step 5 appears again.

11 START DUBBING

Press ◁▷ (or ◄►) to move the arrow to "DUB START", then press **OK**. When the dubbing completes successfully, the message "DUBBING COMPLETES" appears on the screen.

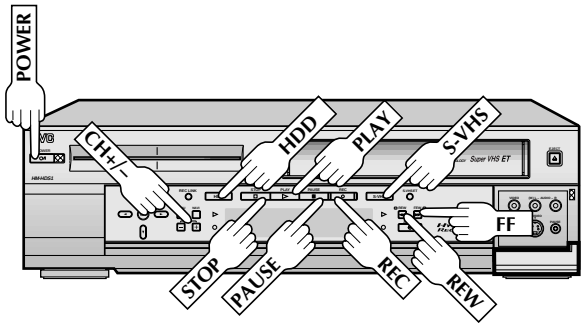
- To cancel dubbing, select "CANCEL" in above step.
- To cancel while dubbing, press **STOP**.

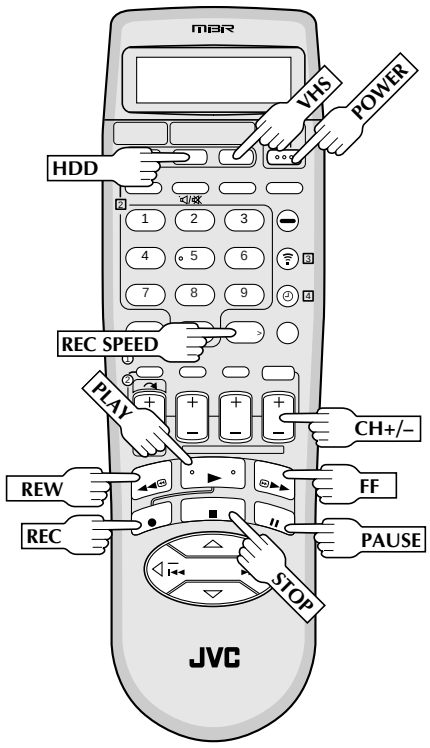
  Once the dubbing is stopped, it can be not resumed. In this case, the message appears on the screen, and the programs on the hard disk drive are not deleted even though "DUB/DEL" is selected.

NOTE:

*If you start dubbing without setting the VHS deck to Record Pause mode in step **9**, you can watch the preview.*

Normal Dubbing (from HDD to VHS)





You can dub selected scenes on a tape, starting and stopping wherever you wish.

1 TURN ON THE RECORDER

Press **POWER**.

2 PREPARE HDD DECK FOR DUBBING

1) Press **HDD** and select the program to be dubbed. You can select the program by HDD Navigation.
2) Press **CH +/–** to set the channel other than "DUB".

3 LOCATE START POINT

1) Select the point where you want to start dubbing by pressing **PLAY**, **FF**, **REW**.
2) Press **REW** a little, then press **PLAY** to start playback.
3) Press **PAUSE** to pause playback before that point a little.

4 PREPARE VHS DECK FOR DUBBING

1) Press **VHS** (or **S-VHS**) and load a recordable cassette.
2) Press **CH +/–** to set the channel "DUB".
3) Press **REC SPEED** to select recording speed.
4) Select the point where you want to start recording by pressing **PLAY**, **FF**, **REW**, **STOP**.

5 START DUBBING

1) Press **HDD** and **PLAY** to start playback.
2) Press **VHS** and **REC** (**REC** and **PLAY** on the remote control) to start dubbing.

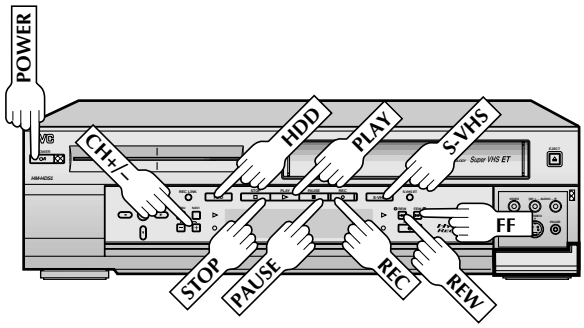
6 END DUBBING

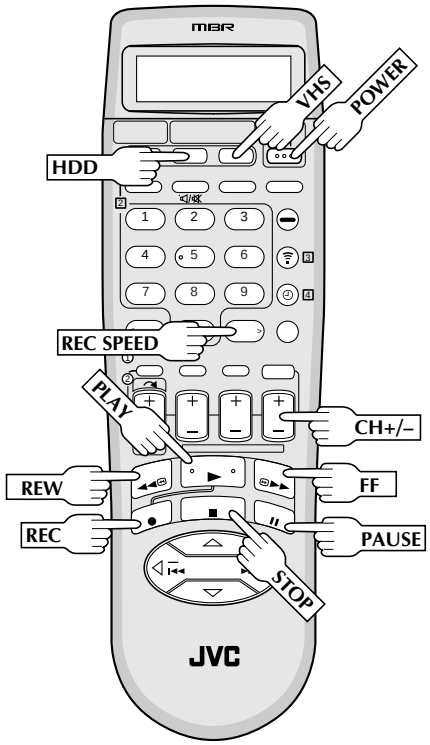
Press **STOP**. Then press **HDD** and press **STOP**.

NOTES:

- *There may be a discrepancy of several seconds between where you intend editing to start, and where it actually starts.*
- *The superimposed indication during the operation or dubbing is not recorded.*

Normal Dubbing (from VHS to HDD)





You can dub selected scenes on a tape, starting and stopping wherever you wish.

1 TURN ON THE RECORDER

Press **POWER**.

2 PREPARE VHS DECK FOR DUBBING

1) Press **VHS** (or **S-VHS**) and select the program to be dubbed. You can select the program by VHS Navigation.
2) Press **CH +/–** to set the channel other than "DUB".

3 LOCATE START POINT

1) Select the point where you want to start dubbing by pressing **PLAY**, **FF**, **REW**.
2) Press **REW** a little ,then **PLAY** to start playback.
3) Press **PAUSE** to pause playback before that point a little.

4 PREPARE HDD DECK FOR DUBBING

1) Press **HDD**.
2) Press **CH +/–** to set the channel "DUB".
3) Press **REC SPEED** to select recording speed.
4) Select the point where you want to start recording by pressing **PLAY**, **FF**, **REW**, **STOP**.

- Set "PICTURE CONTROL" to "EDIT" at the "VHS SET UP 1" of the Main Menu (☞ pg. 44).

5 START DUBBING

1) Press **VHS** and **PLAY** to start playback.
2) Press **HDD** and **REC** (**REC** and **PLAY** on the remote control) to start dubbing.

- To enter recording pause, press and hold **REC** and press **PAUSE** on the remote control. To resume recording, press and hold **REC** and press **PLAY** on the remote control.

6 END DUBBING

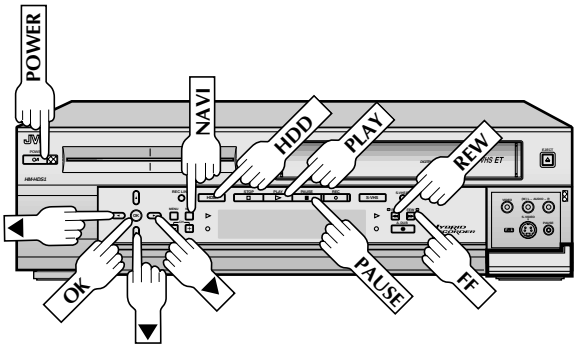
Press **STOP**. Then press **VHS** and press **STOP**.

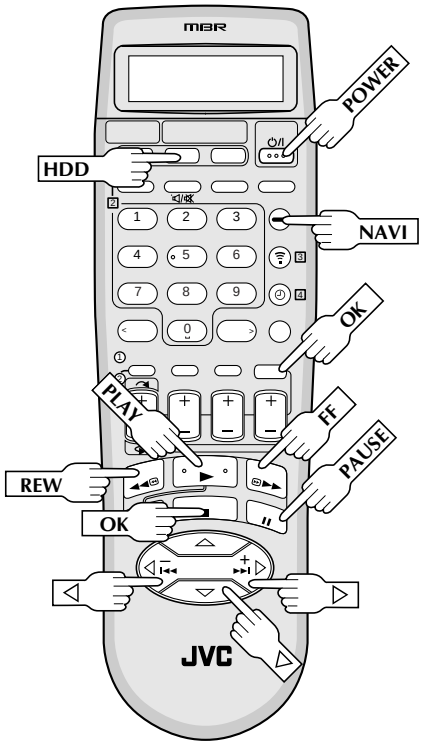
- Set "PICTURE CONTROL" to "AUTO" or "STANDARD" at the "VHS SET UP 1" of the main MENU after dubbing.

NOTES:

- *There may be a discrepancy of several seconds between where you intend editing to start, and where it actually starts.*
- *The superimposed indication during the operation or dubbing is not recorded.*
- *For HDD deck, the recording pause takes effect only when the recorder is recording on the HDD deck with the channel set to "L-1", "F-1", or "DUB". The recording pause is released in 5 minutes automatically. Picture and sound may be distorted at the point where the recording pause is released.*
- *Dubbing copyright guarded tape is not possible.*

Random Assemble Editing





8-program Editing Memory (1 program x 8 scenes)

By using the Random Assemble Editing function, you can select up to 8 scenes from a previously recorded program on the HDD deck and automatically dub them onto a VHS cassette.

Random Assemble Editing is possible only when dubbing from the HDD deck to the VHS deck.

1 TURN ON THE UNIT

Press **POWER**.

2 SELECT HDD DECK

Press **HDD**.

3 ACCESS HDD NAVIGATION SCREEN

Press **NAVI**. The HDD Navigation screen appears.

4 ACCESS EDIT SCREEN

Press ◁▷ (or ◀▶) to move the arrow to “EDITING”, then press ▽ (or ▼) or **OK**.

5 SELECT PROGRAM

Press ◁▷ (or ◀▶) to move the arrow to one program you want to edit, then press ▽ (or ▼) or **OK**.

6 ACCESS R.A. EDIT SCREEN

Press **OK** at the “R.A. EDIT”. The R.A.Edit screen appears.

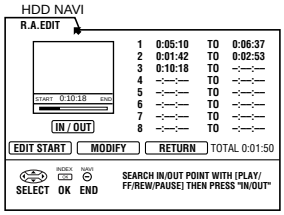
7 START PROGRAM

Press **PLAY** to start playback. The playback pictures appear in the window of the R.A.Edit screen. The first edit-in time starts counting with the arrow to “IN/OUT”.

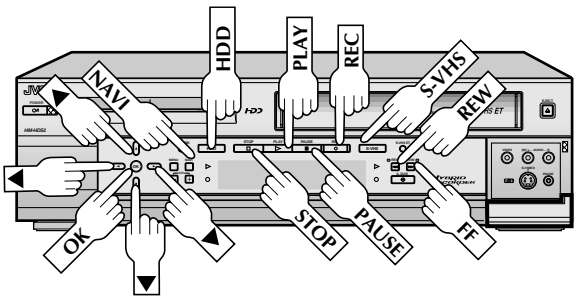
- You can search the scene by using the following buttons: **PLAY**, **PAUSE**, **FF**, **REW**.

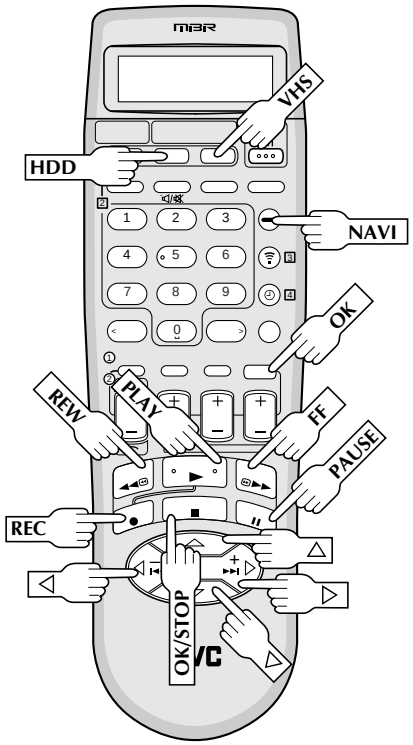
8 SELECT EDIT-IN AND EDIT-OUT POINTS

1) Find the point where you want the edited scene to begin, then press **OK** with the arrow to “IN/OUT”. The edit-in time is fixed and the edit-out time starts counting.



2) Find the point where you want the edited scene to end, then press **OK** with the arrow to “IN/OUT”. The edit-out time is fixed and the next edit-out time starts counting. You can repeat this up to 8 times.





9 SELECT THE OTHER EDIT-IN AND EDIT-OUT POINTS

Repeat step 8. You can select up to 8 pairs of edit-in and edit-out points.

- **To modify the points**
  1) Move the arrow to “MODIFY”, then press OK.
  2) Select the desired points by pressing ◁△▷▽ (or ◄▲►▼), then press **OK**. The selected point starts couting.
  3) Repeat step ***8***.

10 ACCESS START EDITING SCREEN

Press ◁△▷▽ (or ◄▲►▼) to move the arrow to “EDIT START”, then press **OK**. The Start Editing screen with message appear.

11 PREPARE VHS DECK FOR RECORDING

1) Press **VHS** (or **S-VHS**).
2) Load a recordable cassette. And, find the point where you want to start recording by pressing **PLAY**, **FF**, **REW**.
3) Press **PAUSE** and **REC** to enter the Record-Pause mode.

12 ACCESS START EDITING SCREEN

Press **HDD**. The Start Editing screen with message appear again.

13 START EDITING

Press ◁△▷▽ (or ◄▲►▼), to move the arrow to “OK”, then press **OK**. The editing starts. The message “EDIT COMPLETED” appears when the editing is complete successfully.

14 RETURN TO R.A. EDIT SCREEN

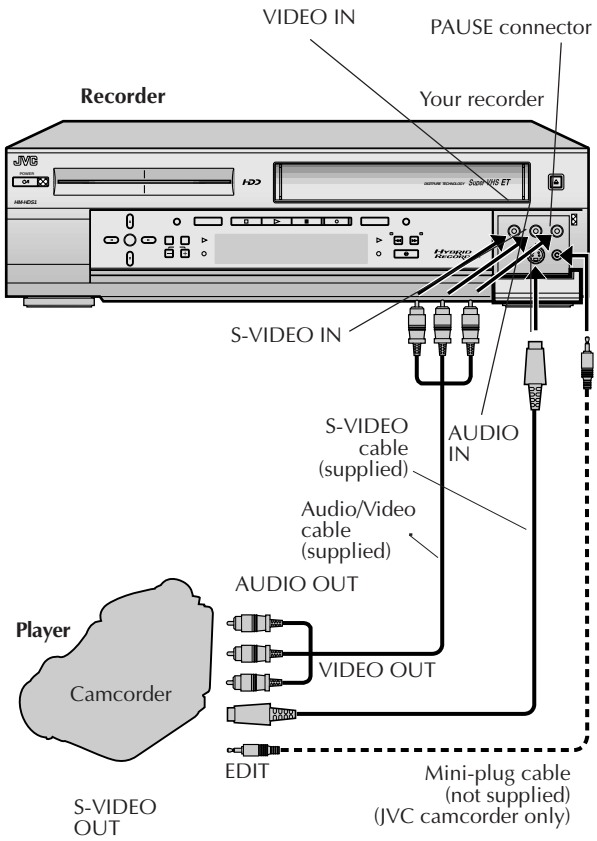
Press **OK**.

- If you want to continue to edit, start from step 7.

15 STOP EDITING

Press **NAVI**. The VHS deck stops recording and enters the Record-Pause mode. Press **VHS** (or **S-VHS**), then press **STOP**.

Edit From A Camcorder



You can use a camcorder as the player and your recorder as the recorder.

1 MAKE CONNECTIONS

Connect an AV cable between the camcorder's VIDEO OUT and AUDIO OUT connectors and your recorder's VIDEO IN and AUDIO IN connectors.

- If connecting a camcorder with an S-VIDEO output connector, it is recommended to use the S-VIDEO connection to minimize picture degradation while editing.
- **VHS deck ONLY**
  When a Master Edit Control-equipped JVC camcorder is used, the camcorder is capable of controlling your recorder. The mini-plug cable is a mono 3.5 mm mini-plug to mono 3.5 mm mini-plug connector.
- If connecting to a camcorder with a monaural output, connect the audio output connector on the camcorder to AUDIO IN L of the recorder.

2 TURN ON THE RECORDER

Press **POWER**.

3 SELECT RECORDING DECK

Press **HDD** or **VHS** (or **S-VHS**).

- When you select VHS deck, load a recordable cassette.

4 SELECT INPUT MODE

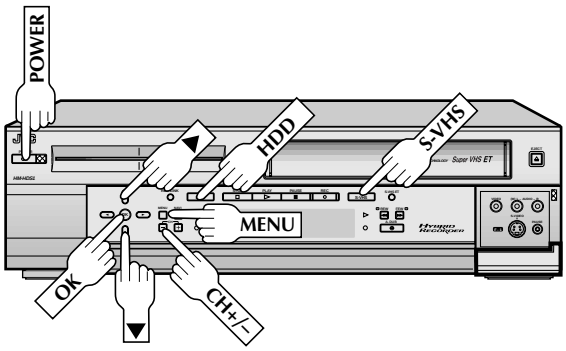
Press **CH +/–** to select depending on the connector being used – "F-1" for the front panel input connectors, or "L-1" for the rear panel input connectors.

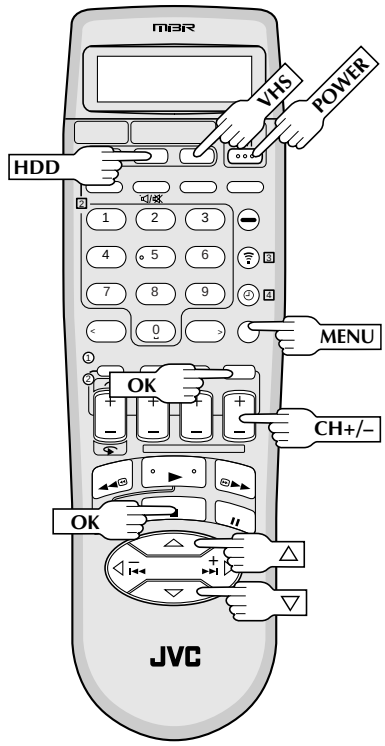
5 ACCESS VIDEO INPUTS SCREEN

1) Press **MENU**.
2) Select "FUNCTION SET UP", then press △▽ (or ▲▼) or **OK**.
3) Select "VIDEO INPUTS", then press △▽ (or ▲▼) or **OK**.

6 SELECT VIDEO INPUT MODE

Set "S-VIDEO" or "COMPOSITE" to "FRONT AUX F-1" or "REAR AUX L-1" by pressing △▽ (or ▲▼) or **OK**.
For details on setting, see page 22.





7 RETURN TO NORMAL SCREEN

Press **MENU**.

8 START PLAYER

Set the camcorder to its play mode.

NOTE:

If the camcorder is equipped with a superimpose/OSD disable feature then set its superimpose or display feature to OFF before pressing play.

9 START RECORDER

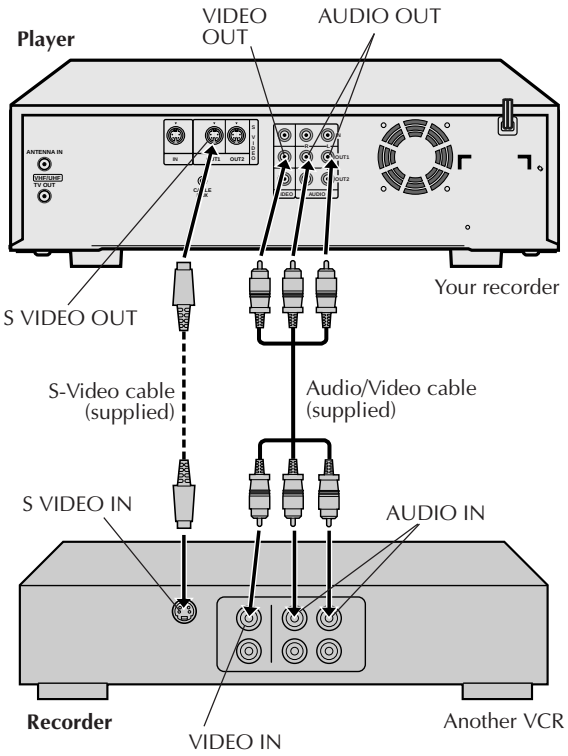
Set your recorder to its record mode.

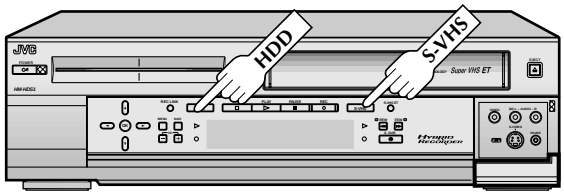
- **VHS deck ONLY**
  If you are using a Master Edit Control-equipped JVC camcorder, it can put the recorder automatically into Record mode. (Refer to camcorder's instruction manual.)
- **For HDD deck**
  To enter recording pause, press and hold **REC** and press **PAUSE** on the remote control. To resume recording, press and hold **REC** and press **PLAY** on the remote control.

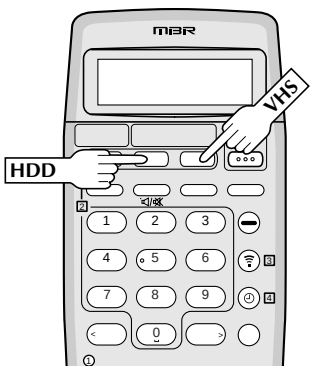
NOTES:

- *If you use an auxiliary input to connect a cable box or DBS receiver, make sure that the correct AUX INPUT ("COMPOSITE" or "S-VIDEO") is selected after you have finished editing (☞ steps **5** – **7**).*
- *For HDD deck, the recording pause takes effect only when the recorder is recording on the HDD deck with the channel set to "L-1", "F-1", or "DUB". The recording pause is released in 5 minutes automatically. Picture and sound may be distorted at the point where the recording pause is released.*
- *Dubbing copyright guarded tape is not possible.*

Edit To Or From Another VCR







You can use your recorder as the player or the recorder.

1 MAKE CONNECTIONS

Connect an AV cable between the player's VIDEO OUT and AUDIO OUT connectors and the recorder's VIDEO IN and AUDIO IN connectors.

- If using another VCR with an S-VIDEO input or output connector, it is recommended to use the S-VIDEO connection to minimize picture degradation while editing.
- When using your recorder as the recorder and a monaural VCR as the player, connect the player's AUDIO OUT connector to the AUDIO IN L connector on the recorder.

2 LOAD CASSETTES

Insert the playback cassette into the player and the cassette to be recorded on into the recorder.

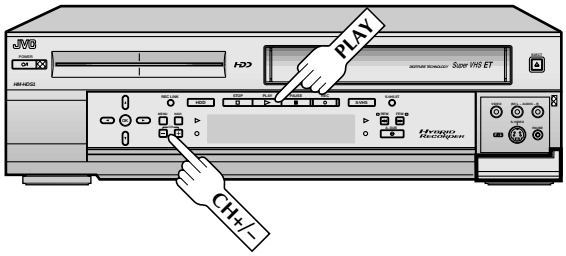
3 SELECT DECK

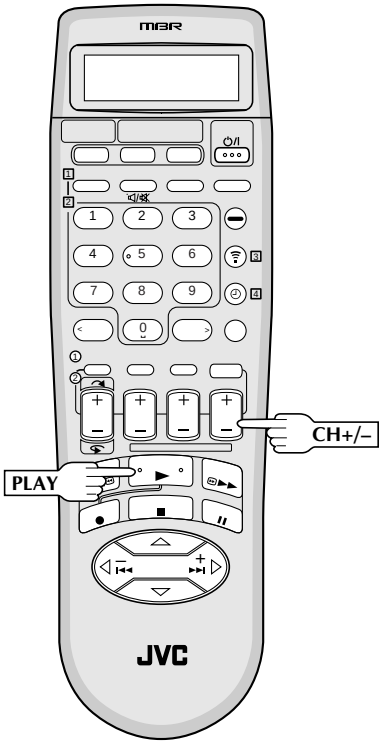
Press **HDD** or **VHS** (or **S-VHS**).

Advantages Of S-VHS Editing

S-VHS allows you make high resolution video recordings when dubbing from one VCR to another.
You can edit from VHS to S-VHS, from S-VHS to VHS, or from S-VHS to S-VHS.

- From VHS to S-VHS: Record VHS playback signals in the S-VHS mode. Although the picture quality is inherently limited by the original VHS source material, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to VHS: Because the picture quality of the source material is very high, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to S-VHS: A high resolution copy is made of a high resolution original S-VHS tape with minimal picture degradation. This is the preferred method of video dubbing.





4 SET RECORDER'S INPUT MODE

Press **CH +/–** to select depending on the connector being used – "L-1" for the front panel input connectors, or "R-1" for the rear panel input connectors.

NOTE:

*If you use your recorder as the recorder and have connected another VCR to your recorder's S-VIDEO IN connector, you need to set "REAR AUX INPUT" to "S-VIDEO" at the Mode Set screen. Follow steps **5 – 7** from the "Edit From A Camcorder" section (☞ pg. 76 and 77).*

5 SELECT "EDIT" FOR PICTURE CONTROL SET MODE (VHS DECK ONLY)

Follow the "Picture Control" section on page 44, then select "EDIT."

NOTE:

When you select "EDIT" to dub tapes, be sure to select "AUTO" or ("NORM" when "VIDEO CALIBRATION" is set to "OFF") after you finish dubbing the tapes.

6 START PLAYER

Set to its play mode.

NOTE:

*If the player is equipped with a superimpose/OSD disable feature then set "SUPERIMPOSE" to "OFF" before pressing **PLAY** (☞ pg. 28 for HDD deck, pg. 41 for VHS deck).*

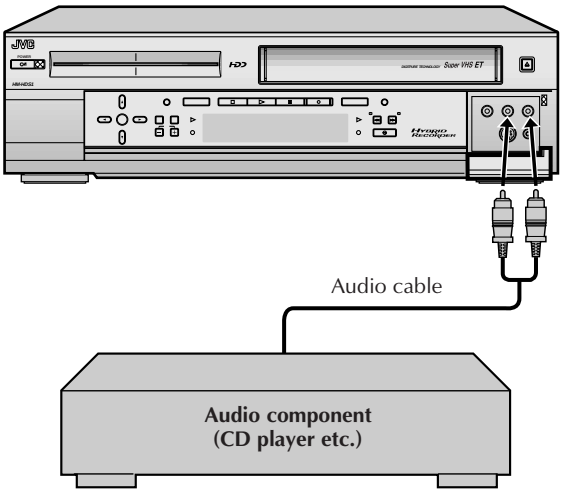
7 START RECORDER

Set to its record mode.

NOTE:

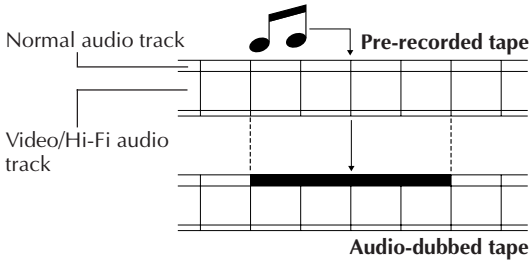
If you use an auxiliary input to connect a cable box or DBS receiver, make sure that the correct AUX INPUT ("VIDEO" or "S-VIDEO") is selected after you have finished editing (☞ pg. 22).

Audio Dubbing (VHS deck only)



VHS Audio Dubbing

Audio dubbing replaces the normal audio sound of a previously recorded tape with a new soundtrack. Use your recorder as the recorder.



1 MAKE CONNECTIONS

Connect an audio component to the AUDIO IN L + R connectors on the recorder´s front panel. *When connecting monaural equipment, use only the recorder´s AUDIO IN L connector.

2 SELECT VHS DECK

Press **VHS** (or **S-VHS**).

3 SET INPUT MODE

Press **CH +/–** to select depending on the connector being used – “F-1” for the front panel input connectors, or “L-1” for the rear panel input connectors.

4 LOCATE START POINT

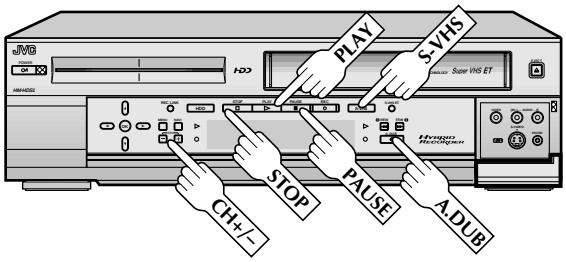
Press **PLAY** to start playback of the tape in your recorder, and press **PAUSE** when you find the point where you want to start dubbing.

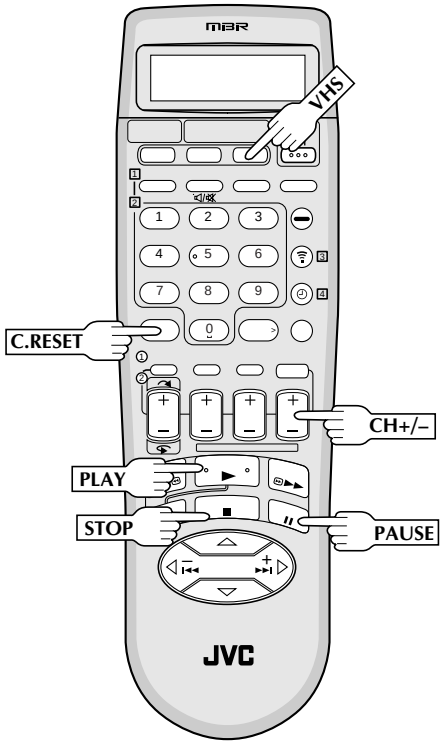
- Press **C.RESET** to change the counter display to “0:00:00”.

5 ENGAGE AUDIO DUBBING

Press **A. DUB**.

- Your recorder enters the Audio Dubbing Pause mode. (◌ blinks, ▷ and ⬚ light up on the front display panel.)





6 START DUBBING

Engage the audio component´s Play mode, then press **PLAY** to start the tape in your recorder. Audio dubbing begins at this point.

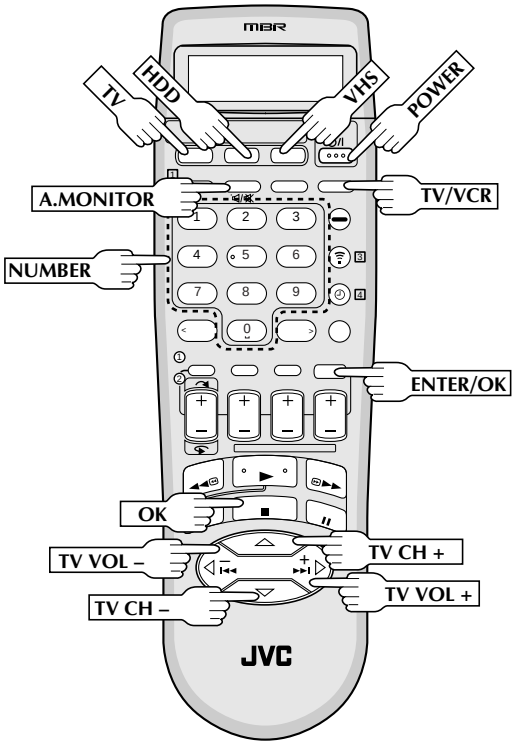
- ◌ blinks and ▷ is displayed on the front display panel.
- To stop dubbing temporarily, press **PAUSE**. Press **PLAY** to resume dubbing.

7 END AUDIO DUBBING

Press **STOP** to stop the tape in your recorder, and engage the audio component's Stop mode.

NOTES:

- *When monitoring the sound during Audio Dubbing, the normal soundtrack is automatically selected. If you wish to hear the Hi-Fi or mixed sound (Hi-Fi + Normal soundtracks), refer to the "Select The Soundtrack" section (☞ pg. 46) and select the soundtrack you wish to hear.*
- *Audio dubbing stops automatically when the counter reaches "0:00:00", and the recorder enters the Play mode. Check the counter reading before dubbing.*
- *Audio dubbing is also possible using the rear AUDIO IN connectors.*
- *Audio dubbing cannot be performed on a VHS/S-VHS cassette that has had its record safety tab removed.*
- *When playing back an audio-dubbed tape, refer to the "Select The Soundtrack" section (☞ pg. 46) to select the soundtrack you wish to hear.*
- *Picture may be distorted during Audio Dubbing Pause.*
- *It may be unlawful to record or play back copyrighted material without the consent of the copyright owner.*



TV Multi-Brand Remote Control

The recorder´s remote control can control several functions on JVC remote control TVs and on the brands of remote control TVs listed below.

1 TURN ON THE TV

Turn the power on using the TV´s remote control.

2 SET REMOTE CONTROL MODE

Press and hold **TV** on the remote control when "TV" appears until the two digits start blinking on the display window of the recorder´s remote control.

TV – 01

3 SET TV BRAND CODE

Enter your TV's brand code using the **NUMBER** keys, then press **OK**.
Follow the example shown at bottom left.

- Once you have set the remote control to operate the TV, you don't have to repeat this step until you replace your remote control's batteries.
- PANASONIC has two codes. If the TV does not function with one code, try entering the other.

4 OPERATE TV

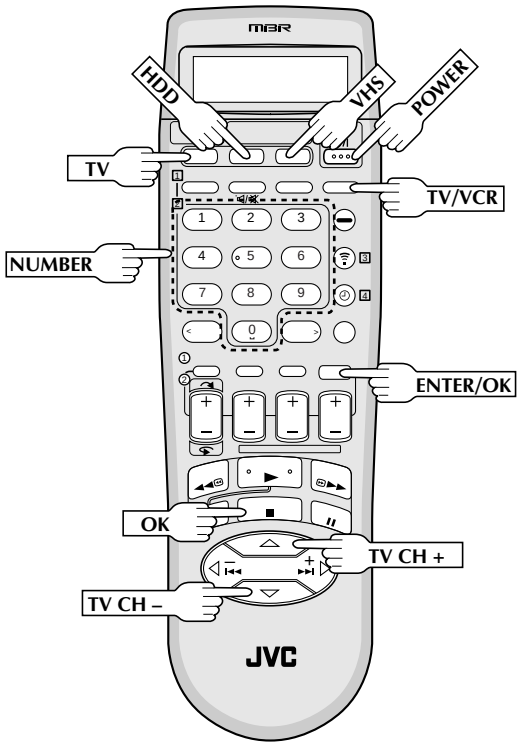
First, press **POWER** on the remote to see if the TV's power goes off as it should. If it does, try other operations.

- The **POWER**, **TV/VCR**, **TV CH +/–**, **TV VOL +/–**, **A. MONITOR** (TV Muting) and **NUMBER** keys on the remote can all be used to operate the TV. *For some brands of TV, you must press **ENTER** after having pressed the **NUMBER** keys.
- To return the remote to the recorder control, press **HDD** or **VHS** (or **S-VHS**).

NOTE:

Depending on the type of TV, there may be cases where some or all functions cannot be operated using the remote control.

TV BRAND NAME	BRAND CODE
JVC	01
MAGNAVOX	02
MITSUBISHI	03
PANASONIC	04, 11
RCA	05
SHARP	06
SONY	07
TOSHIBA	08
ZENITH	09
HITACHI	10
SAMSUNG	12
SANYO	13
SEARS	13



CABLE BOX BRAND NAME	BRAND CODE
ARCHER	01, 05, 17
CABLETENNA	01, 17
CABLEVIEW	15, 16, 17, 21, 25
CITIZEN	15, 16, 17, 21, 25
CURTIS	02, 08
DIAMOND	01, 17
EASTERN	19
GC BRAND	15, 16, 17, 21, 25
GEMINI	15
GENERAL INSTRUMENTS	01, 04, 06, 11, 12, 15
HAMLIN	10, 18, 19, 23
JASCO	15
JERROLD	01, 04, 06, 11, 12, 15
NOVAVISION	02, 08
OAK	07, 20
PANASONIC	13, 14
PULSER	15, 16, 17, 21, 25
RCA	13, 14
REGAL	10, 18, 19, 23
REGENCY	19
REMBRANDT	01, 16, 17
SAMSUNG	05, 16, 24
SCIENTIFIC ATLANTA	02, 08
SIGMA	07, 20
SL MARX	05, 16, 17, 24, 25
SPRUCER	13, 14
STARGATE	05, 15, 16, 17, 21, 24, 25
TELEVIEW	05, 16, 24
TOCOM	01, 04, 16
UNIKA	01, 17
UNIVERSAL	16, 17, 25
VIDEOWAY	03, 09, 22
ZENITH	03, 09, 22

Cable Box Multi-Brand Remote Control

The recorder's remote control can control functions on the brands of cable boxes listed below. Some cable box brands have more than one code. If your cable box does not function with a specified code, try other codes.

1 TURN ON THE CABLE BOX

Turn the power on using the cable box´s remote control.

2 SET REMOTE CONTROL MODE

Press and hold **TV** on the remote control when "CABLE DBS" appears until the two digits start blinking on the display window of the recorder´s remote control.

dbSCBL – 01

3 ENTER CABLE BOX BRAND

Enter your cable box brand code using the **NUMBER** keys, then press **OK**.
Follow the example shown at bottom left.

- Once you have set the remote control to operate the cable box, you don´t have to repeat this step until you replace the remote control´s batteries.

4 OPERATE CABLE BOX

First, press **POWER** to see if the cable box's power goes off as it should. If it does, try other functions (**TV CH +/–** and the **NUMBER** keys can be used to operate the cable box).

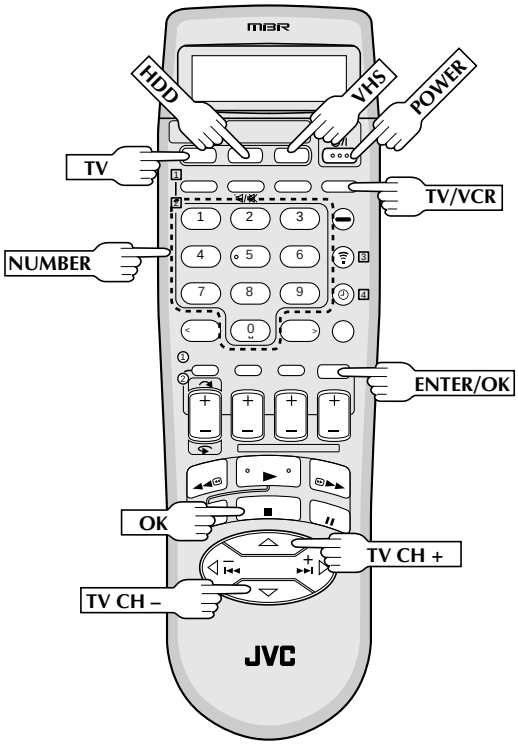
- For some brands of cable box, you must press **ENTER** after having pressed the **NUMBER** keys.
- To return the remote to the recorder control, press **HDD** or **VHS** (or **S-VHS**).

NOTES:

- *You must set the cable box brand for your remote control and the cable box brand for your Controller (☞ pg. 16) separately. The list of cable box brands that can be controlled by your remote control is different from the list of brands that can be controlled by your controller.*
- *Depending on the type of cable box, there may be cases where some or all functions cannot be operated using the remote control.*
- *It's not possible to set the remote control for both your cable box and a DBS receiver at the same time. You can only set the remote control to operate one of these units at a time.*

DBS Receiver Multi-Brand Remote Control

The recorder´s remote control can control functions on the brands of DBS (Direct Broadcast Satellite) receivers listed below.



1 TURN ON THE DBS RECEIVER

Turn the power on using the DBS receiver's remote control.

2 SET REMOTE CONTROL MODE

Press and hold **TV** on the remote control when "CABLE DBS" appears until the two digits start blinking on the display window of the recorder´s remote control.

dbSCBL – 01

3 ENTER DBS RECEIVER BRAND

Enter your cable box brand code using the **NUMBER** keys, then press **OK**.
Follow the example shown at bottom left.

- Once you have set the remote control to operate the DBS receiver, you don´t have to repeat this step until you replace the remote control´s batteries.

4 OPERATE DBS RECEIVER

First, press **POWER** to see if the DBS receiver's power goes off as it should. If it does, try other functions (**TV CH +/–** and the **NUMBER** keys can be used to operate the DBS receiver).

- For some brands of DBS receiver, you must press **ENTER** after having pressed the **NUMBER** keys.
- To return the remote to the recorder control, press **HDD** or **VHS** (or **S-VHS**).

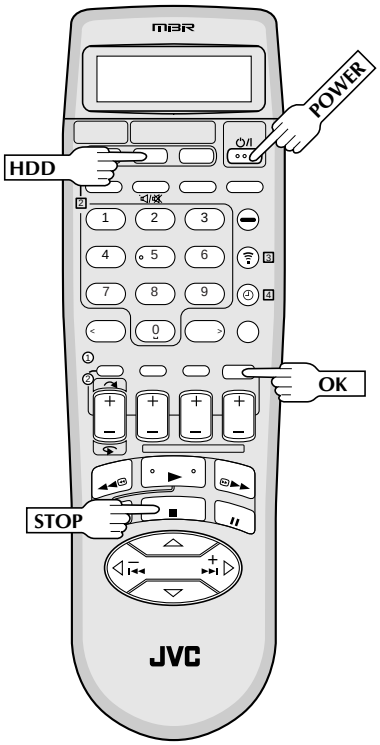
DBS BRAND NAME	BRAND CODE
JVC (DISH Network)	51
ECHOSTAR (DISH Network)	51
PRIMESTAR	50
SONY (DSS)	41
RCA (DSS)	40

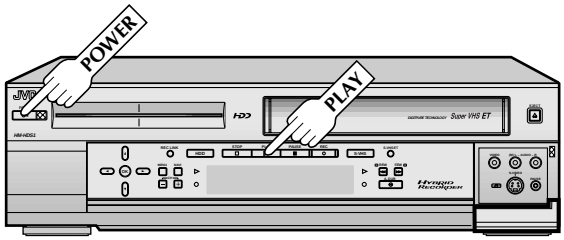
NOTES:

- *You must set the DBS receiver brand for your remote control and the DBS receiver brand for your Controller (☞ pg. 19) separately.*
- *Depending on the type of DBS receiver, there may be cases where some or all functions cannot be operated using the remote control.*
- *It's not possible to operate a DBS receiver that is not equipped with a remote control sensor.*
- *Though ECHOSTAR has a number of different remote codes, this remote control is applicable only to one of those codes preset at the factory.*
- *It's not possible to set the remote control for both your DBS receiver and a cable box at the same time. You can only set the remote control to operate one of these units at a time.*

Control Four JVC VCRs

The remote control is capable of controlling two JVC VCRs independently; one set to respond to your remote control's **A** code control signals and the other set to respond to **B**, **C**, **D** code control signals. The remote control is preset to send **A** code signals because your recorder is initially set to respond to **A** code signals. You can easily modify your recorder to respond to the other code signals.





1 TURN ON THE RECORDER

Press **POWER**.

2 SET REMOTE CONTROL CODE

Press and hold **HDD** on the remote control until "A" starts blinking on the display window of the remote control.

VIDEO A

3 ENTER REMOTE CONTROL CODE

Press one of the following buttons to enter the desired cord, then press **OK**. The current setting code of the remote control appears on the display window.

2: sets the remote control code to "B"
3: sets the remote control code to "C"
4: sets the remote control code to "D"
1: sets the remote control code to "A"

VIDEO C

Ex. When pressing **3**.

4 PREPARE THE RECORDER FOR RECEIVING CONTROL CODE

1) To turn off the unit, press **POWER** on the front panel.
2) Press **PLAY** on the front panel for 5 seconds. The current setting code of the unit appears on the display.

A

5 TRANSMIT THE NEW CODE TO THE RECORDER

Press **STOP** on the remote control. The new code is transmitted to the unit and blinks for about 5 seconds on the display, then the clock time appears.

C

6 CONFIRM THE SETTING

Press **POWER** on the remote control. When the unit is turned on, the setting is complete. If the unit is NOT turned on, repeat from step 1.

Before requesting service for a problem, use this chart and see if you can repair the trouble yourself. Small problems are often easily corrected, and this can save you the trouble of sending your recorder off for repair.

POWER

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The power won't come on.	• The power cord is disconnected.	Connect the power cord.
2. The remote control won't function.	• The batteries are discharged.	Replace the dead batteries with new ones.

TAPE TRANSPORT

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The cassette gets stuck partway during loading, and is ejected.	• The cassette was inserted incorrectly.	Make sure the cassette's window is facing up, the rear label side is facing you and the arrow on the front of the cassette is pointing towards therecorder. Then insert the cassette.

PLAYBACK

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Playback won't start.	• **HDD deck** Playback point is at the end of the program.	Reverse the program by pressing appropriate buttons.
2. The tape is running but the picture won't appear.	• The TV receiver is set to the wrong mode.	Set the TV receiver to its AV mode.
3. Noise appears during visual search.	• This is normal.	
4. Breaks are noticeable in Hi-Fi soundtrack.	• Automatic tracking is engaged.	Disengage Auto Tracking and adjust the tracking manually (☞ pg. 42).
5. The playback picture is blurred or interrupted, even though TV broadcasts are clear.	• The video heads may be dirty.	The heads must be cleaned. Consult your JVC dealer.
6. The Hi-Fi soundtrack cannot be heard.	• The soundtrack option was set incorrectly.	Press **A. MONITOR** to select "HI-FI" (☞ pg. 46).

RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Recording won't start.	• **VHS deck** There is no cassette loaded, or the cassette loaded has had its Record Safety tab removed.	Insert a cassette, or using adhesive tape, reseal the slot where the tab was removed.
2. Recording won't stop.	• **HDD deck** Live Memory Playback is in progress.	When Live Memory Playback is used, press **STOP** to stop Live Memory Playback, then press **STOP** to stop recording.
3. TV broadcasts won't record properly.	• The recorder has been set to its AUX mode by mistake.	Set the recorder to the appropriate channel.
4. Tape-to-tape editing won't work.	• The VCRs or the camcorder and the VCR have been incorrectly connected. • The power to one or more of the units has not been turned on. • The recorder's input mode has been set incorrectly.	Refer to the directions and the illustration under "Edit To Or From Another VCR" (☞ pg. 78) or "Edit From A Camcorder" (☞ pg. 76) and properly connect the units. Make sure the power to all units is on. Select the recorder's appropriate input mode.

RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
5. Audio dubbing is not possible.	● The tape speed had been set to LP at the original recording. ● **HDD deck** This is normal. Audio dubbing is not available for HDD deck.	Set the tape speed to SP at the original recording.
7. When performing Tape Dubbing, the beginning of the dubbing start point is not dubbed.	● This is normal.	

TIMER RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Timer recording won't work.	● The clock and/or the timer have been set incorrectly. ● The timer is not engaged. ● The recorder has not been set up properly.	Set the clock and/or timer correctly. Press **TIMER** and check to make sure that ◴ appears on the front display panel. Re-perform the set-up procedures. Make sure you have compensated for Guide Channel and recorder or cable box channel number mismatches (☞ pg. 56).
2. Timer programming won't work.	● Timer recording is in progress.	Timer programming can't be performed when timer recording is in progress. Wait until it finishes.
3. ◴ and 📼 on the front display panel won't stop blinking.	● The timer is engaged but there's no cassette loaded.	**VHS deck** Load a cassette with the Record Safety tab intact, or cover the hole using adhesive tape.
4. The cassette is automatically ejected, and ◴ and 📼 on the front display panel won't stop blinking.	● **VHS deck** The loaded cassette has had its Record Safety tab removed.	Remove the cassette and cover the hole with adhesive tape, or insert a cassette with the Record Safety tab intact. Remove the cassette and set the erase protection switch to "REC".
5. ◴ blinks for 10 seconds and the timer mode is disengaged.	● **TIMER** has been pressed when there are no programs in memory, or the timer record program information has not been programmed correctly.	Check the programmed data and re-program as necessary, then press **TIMER** again.
6. The cassette is automatically ejected, the power shuts off and ◴ and 📼 won't stop blinking.	● The end of tape was reached during timer recording.	The program may not have been recorded in its entirety. Next time make sure you have enough time on the tape to record the entire program.

CONTINUED ON NEXT PAGE

TIMER RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
7. Cable channels are not automatically switched during timer recording.	● The Controller is not properly connected to the recorder. ● The output channel selected in the Cable Box Set screen is incorrect. ● The cable box's power is off.	Connect the Controller correctly (☞ pg. 15). After confirming your cable box's output channel number, re-access the Cable Box Set screen and select the correct number (☞ pg. 16). Make sure the power is on before timer recording starts.
8. Satellite channels are not automatically switched during timer recording.	● The Controller is not properly connected to the recorder. ● The output channel selected in the DBS Receiver Set screen is incorrect. ● The recorder is not set correctly to control the DBS Receiver. ● The DBS receiver's power is off.	Connect the Controller correctly (☞ pg. 18). After confirming your DBS receiver's output channel number, re-access the DBS Receiver Set screen and select the correct number (☞ pg. 19). Set the correct DBS Receiver brand code (☞ pg. 20). Make sure the power is on before timer recording starts.
9. Timer recording begins as scheduled, but the channel is always incorrect.	● Even though you don't use an external Cable Box, "CABLE BOX SET" is set to "ON".	Set "CABLE BOX SET" to "OFF" (☞ pg. 16).
10. We moved, and now the recorder Plus+ system doesn't work properly.	● The receivable stations in the new area are received on different channels than those in the previous area.	Re-perform the VCR Plus+ setup procedure (☞ pg. 54).
11. "PROGRAM FULL" is displayed on the screen.	● All 16 programs are used.	Wait until a space in memory clears, or cancel unnecessary program information (☞ pg. 61).

OTHER PROBLEMS

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. When scanning channels, some of them are skipped over.	● Those channels have been preset to be skipped.	If you need the skipped channels, restore them (☞ pg. 14).
2. The channel can't be changed.	● Recording is in progress.	Press **PAUSE** to pause the recording, change channels, then press **PLAY** to resume recording.
3. The remote control won't operate my TV or cable box or DBS receiver.	● The remote control brand setting is incorrect.	Re-set the remote control to the correct brand (☞ pg. 82 or 83 or 84).
4. Even though Auto or Semi-Auto clock setting has been selected, the clock is incorrect.	● The clock setting data received from the Host Channel is incorrect.	Select a different Host Channel during the Semi-Auto setting procedure (☞ pg. 11), or perform the Manual setting procedure (☞ pg. 12).

ATTENTION

This recorder contains microcomputers. External electronic noise or interference can cause microcomputer to malfunction. If the recorder does not operate correctly switch its power off and unplug the power cord from the AC supply. Wait for a while and then plug the power back in. Eject and check the condition of the cassette. If everything appears normal resume operating the recorder as usual.

PLAYBACK

Q. What happens if the end of the tape is reached during playback or search?
A. The tape is automatically rewound to the beginning.

. . . . . .

Q. Can the VCR indefinitely remain in the still mode?
A. No. It stops automatically after 5 minutes (VHS deck) to protect the heads.

. . . . . .

Q. During search, still and frame-by-frame playback, the picture is intermittent. What's the cause?
A. Picture loss occurs when these types of playback are attempted with a tape recorded in LP mode. Pressing **PLAY** to return to normal playback will restore the picture.

. . . . . .

Q. When returning from multi-speed search to normal playback, the picture is disturbed. Should I be concerned about this?
A. No, it is normal.

. . . . . .

Q. When playing back programs that have been timer-recorded with consecutive times (such one program from 8:00 to 9:00 and another one from 9:00 to 10:00), the picture and sound become momentarily distorted at the point where the first program ends and the second program begins. Is this a malfunction?
A. No. This is normal.

. . . . . .

Q. Other than preventing further recording, what effect does removing the safety tab have?
A. It disables marking of index codes.

. . . . . .

Q. Sometimes, during Index Search, the VCR can't find the program I want to see. Why not?
A. There may be index codes too close together.

. . . . . .

Q. During playback, on-screen operational indicators sometimes jitter. Why does this happen?
A. If the condition of the tape being played back is not good, jittering of the video (including on-screen indicators) may occur.

RECORDING

Q. When I pause and then resume a recording, the end of the recording before the pause is overlapped by the new recording. Why does this happen?
A. This is normal. It reduces distortion at the pause and resume points.

. . . . . .

Q. Can the VCR indefinitely remain in the Record-Pause mode?
A. No. The VCR automatically goes to its Stop mode after 5 minutes (VHS deck) to protect the heads. When paused during Instant Timer Recording (ITR), the VCR shuts off automatically after 5 minutes (VHS deck).

. . . . . .

Q. What happens if the tape runs out during recording?
A. The VCR automatically rewinds it to the beginning.

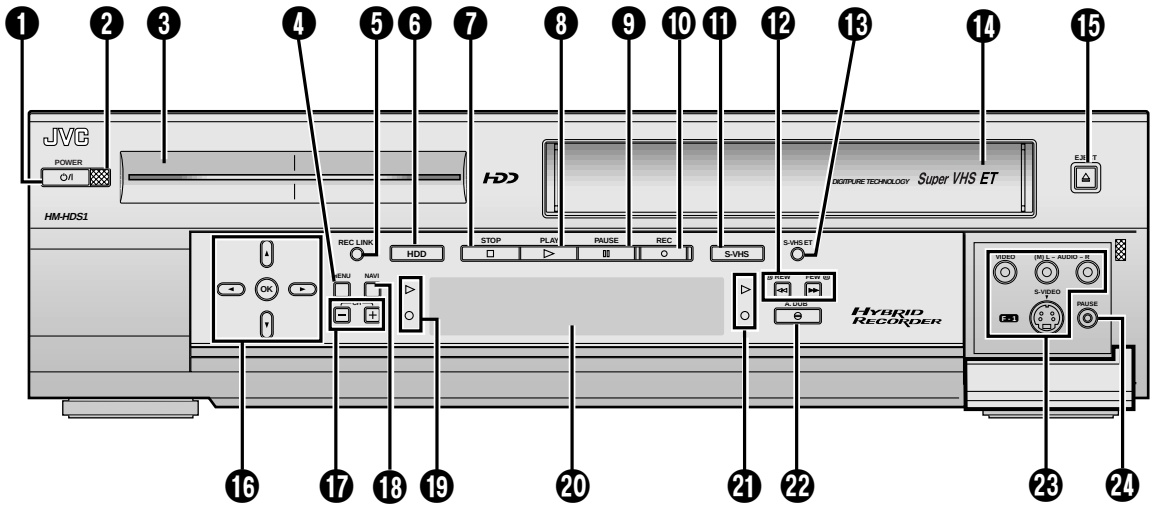
TIMER RECORDING

Q. REC and ◴ remain lit on the front display panel. Is there a problem?
A. No. This is a normal condition for a timer recording in progress.

. . . . . .

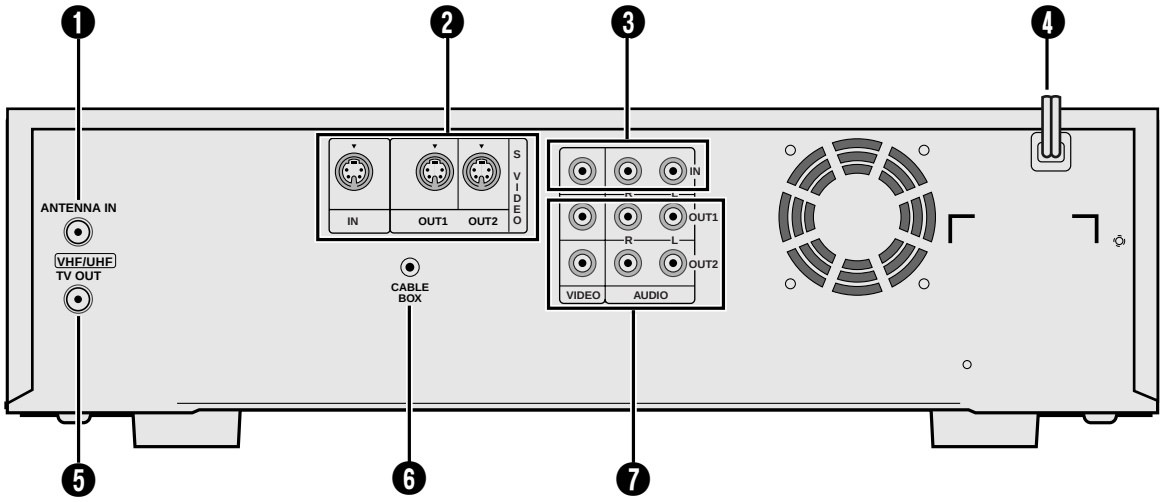
Q. Can I program the timer while I'm watching a tape or a TV broadcast?
A. Yes, but while you are setting the timer you won't see the tape's or broadcast program's picture as it is replaced by the on-screen menu. The audio from the tape or broadcast program will be present during the setting of the timer.

FRONT VIEW



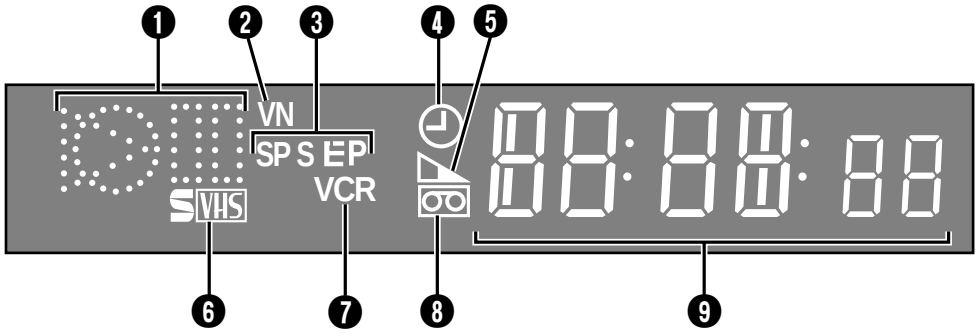
❶ Power On/Off Button (☞ pg. 10)
❷ Remote Control Sensor
❸ Hard Disk Drive Illumination
❹ MENU button (☞ pg. 10)
❺ REC LINK Button (☞ pg. 63)
❻ HDD Button (☞ pg. 23)
❼ STOP Button (☞ pg. 23)
❽ PLAY Button (☞ pg. 24)
❾ PAUSE Button (☞ pg. 24)
❿ REC Button (☞ pg. 23)
⓫ VHS Button (☞ pg. 34)
⓬ ◄◄ and ►► Buttons (☞ pg. 30)
⓭ S-VHS ET Button (☞ pg. 51)
⓮ VHS Cassette Loading Slot
⓯ VHS EJECT Button (☞ pg. 34)
⓰ ▲▼◄► and OK Buttons (☞ pg. 10)
⓱ Channel [CH] +/– Button (☞ pg. 23)
⓲ NAVI Button (☞ pg. 26)
⓳ HDD indicators (☞ pg. 23)
⓴ Display Panel (☞ pg. 43)
㉑ VHS indicators (☞ pg. 34)
㉒ A. DUB Button (☞ pg. 80)
㉓ S-VIDEO/VIDEO/AUDIO Input Connectors (☞ pg. 76)
㉔ Remote PAUSE connector (☞ pg. 76)

REAR VIEW



❶ ANTENNA IN Connector (☞ pg. 8)
❷ S VIDEO Input/Output Connector (☞ pg. 8)
❸ VIDEO/AUDIO Input Connectors
❹ Power Cord (☞ pg. 8)
❺ TV OUT Connector (☞ pg. 8)
❻ CABLE BOX Controller Connector (☞ pg. 15)
❼ VIDEO/AUDIO Output Connectors (☞ pg. 8)

DISPLAY PANEL

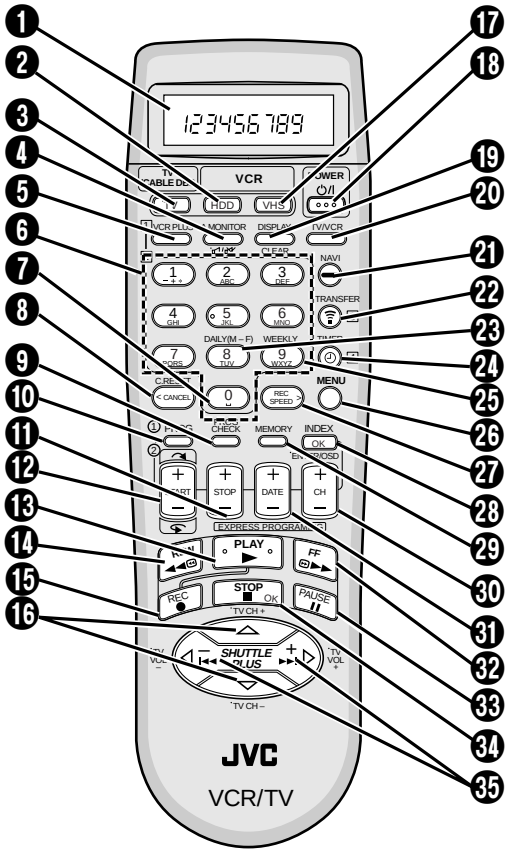


❶ Symbolic Mode Indicators
(Refer to the chart below)
❷ VN (VHS Navigation) Indicators (☞ pg. 37)
❸ Speed Indicators (☞ pg. 23)
❹ Timer Mode Indicator (☞ pg. 55)
❺ Remaining Time Indicator (☞ pg. 43)
❻ S-VHS Indicator (☞ pg. 51)
❼ VCR Mode Indicator
❽ "Cassette Loaded" Mark
❾ Channel Display ["L-1" and "F-1" for AUX mode]
Counter Display (☞ pg. 43)
Clock Display (☞ pg. 43)

❶ Symbolic Mode Indicators

PLAY: FF/REW VARIABLE SEARCH:	▷	STILL: SLOW:	▷▥
		RECORD:	○
		RECORD PAUSE:	○▥
AUDIO DUBBING:			✳
AUDIO DUBBING PAUSE:			✳▥

REMOTE CONTROL



Buttons with a small dot on the left side of the name can also be used to operate your TV with the remote control mode set to TV. ☞ pg. 82

How To Use

The remote control can operate most of your recorder's functions, as well as basic functions of TV sets, Cable Boxes and DBS Receivers.

- Point the remote control toward the sensor window.
- The maximum operating distance of the remote control is about 8 m.

NOTES:

- *When inserting the batteries, be sure to insert in the correct directions as indicated under the battery cover.*
- *If the remote control doesn't work properly, remove its batteries. Replace with fully charged batteries and then try again.*

❶ Display Window (☞ pg. 54)
❷ HDD Button (☞ pg. 23)
❸ TV Button (☞ pg. 82)
❹ A.MONITOR Button (☞ pg. 46)
❺ VCR PLUS Button (☞ pg. 54)
❻ Number Buttons (☞ pg. 14)
❼ Space Button (☞ pg. 67)
❽ CANCEL Button (☞ pg. 54)
Counter [C.] RESET Button (☞ pg. 43)
❾ PROG. CHECK Button (☞ pg. 61)
❿ PROG. Button (☞ pg. 55)
⓫ STOP +/– Button (☞ pg. 55)
⓬ START +/– Button (☞ pg. 58)
⓭ PLAY Button (☞ pg. 24)
⓮ Rewind [REW] Button (☞ pg. 27)
⓯ Record [REC] Button (☞ pg. 23)
⓰ △▽ Buttons (☞ pg. 10)
TV Channel [CH] +/– Button (☞ pg. 82)
⓱ VHS Button (☞ pg. 34)
⓲ POWER On/Off Button (☞ pg. 10)
⓳ DISPLAY Button (☞ pg. 43)
⓴ TV/VCR Button (☞ pg. 8)
㉑ NAVI Button (☞ pg. 26)
㉒ TRANS Button (☞ pg. 54)
㉓ DAILY(M-F) Button (☞ pg. 55)
㉔ TIMER Button (☞ pg. 55)
㉕ WEEKLY Button (☞ pg. 55)
㉖ MENU Button (☞ pg. 10)
㉗ REC SPEED Button (☞ pg. 23)
㉘ OK Button (☞ pg. 10)
INDEX Button (☞ pg. 66)
ENTER Button (☞ pg. 23)
On-Screen Display [OSD] Button (☞ pg. 29)
㉙ MEMORY Button (☞ pg. 26)
㉚ Channel [CH] +/– Button (☞ pg. 23)
㉛ DATE +/– Button (☞ pg. 58)
㉜ Fast Forward [FF] Button (☞ pg. 30)
㉝ PAUSE Button (☞ pg. 24)
㉞ STOP Button (☞ pg. 23)
OK Button (☞ pg. 10)
㉟ ⏮ ⏭ (◁ ▷) Button (☞ pg. 10)
TV Volume [VOL] +/– Button (☞ pg. 82)

List Of Terms

This guide serves as a quick way to locate frequently used terms and on-screen display names.

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GENERAL

Power requirement	: AC 120 V∿, 60 Hz
Power consumption	
Power on	: 45 W
Power off	: 14 W
Temperature	
Operating	: 5°C to 40°C (41°F to 104°F)
Storage	: –20°C to 60°C (–4°F to 140°F)
Operating position	: Horizontal only
Dimensions (WxHxD)	: 435 mm x 124 mm x 385 mm (17-1/16" x 4-15/16" x 15-3/16")
Weight	: 7.4 kg (16.4 lbs)
Input/Output	: RCA connectors: (IN x 1, OUT x 2) S-Video connectors: (IN x 1, OUT x 2)

HDD DECK VIDEO/AUDIO

Video format	: MPEG2 (VBR)
Audio format	: MPEG1 Layer2
Maximum recording time	
(SP)	: 14 hours
(LP)	: 20 hours
(EP)	: 28 hours
(SEP)	: 40 hours

VHS DECK VIDEO/AUDIO

Signal system	: NTSC-type colour signal and EIA monochrome signal, 525 lines/ 60 fields
Recording system	: DA4 (Double Azimuth) head helical scan system
Format	: S-VHS/VHS NTSC standard
Signal-to-noise ratio	: 45 dB
Horizontal resolution	: 240 lines (VHS) 400 lines (S-VHS)
Frequency range	: 70 Hz to 10,000 Hz (Normal audio) 20 Hz to 20,000 Hz (Hi-Fi audio)
Maximum recording time	
(SP)	: 210 min. with ST-210 video cassette
(EP)	: 630 min. with ST-210 video cassette

TUNER

Tuning system	: Frequency-synthesized tuner
Channel coverage	
VHF	: Channels 2–13
UHF	: Channels 14–69
CATV	: 113 Channels

TIMER

Clock reference	: Quartz
Program capacity	: 1-year programmable timer/ 16 programs each on the VHS and HDD deck
Memory backup time	: Approx. 60 min.

ACCESSORIES

Provided accessories	: RF cable (F-type), Infrared remote control unit, "AA" battery x 2, Audio/Video Cable, S-Video cable (4-pin), Controller

Specifications shown are for SP mode unless otherwise specified. E. & O.E. Design and specifications subject to change without notice.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
Consult the dealer or an experienced radio/TV technician for help.

HOW TO LOCATE YOUR JVC SERVICE CENTER

TOLL FREE: 1-800-252-5722
http://www.jvcservice.com

Dear customer:

In order to receive the most satisfaction from your purchase, read the instruction booklet before operating the unit. In the event that repair is necessary, or for the address nearest your location, please refer to the factory service center list below or within the Continental United States, call 1-800-252-5722 for your authorized servicer. Remember to retain your Bill of Sale for Warranty Service.

— JVC

JVC SERVICE & ENGINEERING COMPANY OF AMERICA

DIVISION OF JVC AMERICAS CORP.

FACTORY SERVICE CENTER LOCATIONS

10 New Maple Avenue
Pine Brook, NJ 07058-9641
(973) 396-1000

1500 Lakes Parkway
Lawrenceville, GA 30243-5857
(770) 339-2522

705 Enterprise Street
Aurora, IL 60504-8135
(630) 851-7855

5665 Corporate Avenue
Cypress, CA 90630-4727
(714) 229-8011

10700 Hammerly Boulevard, Suite 110
Houston, TX 77043-2310
(713) 935-9331

2969 Mapunapuna Place, Suite 105
Honolulu, HI 96819-2000
(808) 833-5828

13 Cummings Park
Woburn, MA 01801-2105
(781) 376-9100

8192 W State Road 84
Davie, FL 33324-4611
(954) 472-1960

890 Dubuque Avenue
South San Francisco, CA 94080-1804
(650) 871-2666

Sophisticated electronic products may require occasional service. Just as quality is a keyword in the engineering and production of the wide array of JVC products, service is the key to maintaining the high level performance for which JVC is world famous. The JVC service and engineering organization stands behind our products.

NATIONAL HEADQUARTERS
JVC SERVICE & ENGINEERING COMPANY OF AMERICA
DIVISION OF JVC AMERICAS CORP.
10 New Maple Avenue
Pine Brook, NJ 07058-9641

If you ship the product...

Pack your JVC unit in the original carton or one of equivalent size and strength. Enclose, with the unit, a letter stating the problem or symptom that exists and also a copy of the receipt or bill of sale you received when you purchased your JVC unit. Print your home return address on the outside and the inside of the carton. Send to the appropriate JVC Factory Service Center as listed above.

ACCESSORIES

To purchase accessories for your JVC product, you may contact your local JVC Dealer.
Or from the 48 Continental United States call toll free:
1-800-882-2345.

Don't service it yourself.

CAUTION

To prevent electrical shock, do not open the cabinet. No user serviceable parts inside.
Refer servicing to qualified service personnel.

LIMITED WARRANTY

CONSUMER VIDEO 1-90

JVC COMPANY OF AMERICA warrants this product and all parts thereof, except as set forth below ONLY TO THE ORIGINAL PURCHASER AT RETAIL to be FREE FROM DEFECTIVE MATERIALS AND WORKMANSHIP from the date of original retail purchase for the period as shown below. ("The Warranty Period")

PARTS	LABOR
1 YR	**90** DAYS

THIS LIMITED WARRANTY IS VALID ONLY IN THE FIFTY (50) UNITED STATES, THE DISTRICT OF COLUMBIA AND IN COMMONWEALTH OF PUERTO RICO.

WHAT WE WILL DO:
If this product is found to be defective, JVC will repair or replace defective parts at no charge to the original owner. Such repair and replacement services shall be rendered by JVC during normal business hours at JVC authorized service centers. Parts used for replacement are warranted only for the remainder of the Warranty Period. All products and parts thereof may be brought to a JVC authorized service center on a carry-in basis except for Television sets having a screen size 25 inches and above which are covered on an in-home basis.

WHAT YOU MUST DO FOR WARRANTY SERVICE:
Return your product to a JVC authorized service center with a copy of your bill of sale. For your nearest JVC authorized service center, please call toll free: (800) 252-5722.

If service is not available locally, box the product carefully, preferably in the original carton, and ship, insured, with a copy of your bill of sale plus a letter of explanation of the problem to the nearest JVC Factory Service Center, the name and location of which will be given to you by the toll-free number.

If you have any questions concerning your JVC Product, please contact our Customer Relations Department.

WHAT IS NOT COVERED:
This limited warranty provided by JVC does not cover:
1. Products which have been subject to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, or if repaired or serviced by anyone other than a service facility authorized by JVC to render such service, or if affixed to any attachment not provided with the products, or if the model or serial number has been altered, tampered with, defaced or removed;
2. Initial installation and installation and removal for repair;
3. Operational adjustments covered in the Owner's Manual, normal maintenance, video and audio head cleaning;
4. Damage that occurs in shipment, due to act of God, and cosmetic damage;
5. Signal reception problems and failures due to line power surge;
6. Video Pick-up Tubes/CCD Image Sensor, Cartridge, Stylus (Needle) are covered for 90 days from the date of purchase;
7. Accessories;
8. Batteries (except that Rechargeable Batteries are covered for 90 days from the date of purchase); from the date of purchase);

There are no other express warranties except as listed above.

THE DURATION OF ANY IMPLIED WARRANTIES INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY, IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY HEREIN.

JVC SHALL NOT BE LIABLE FOR THE LOSS OF USE OF THE PRODUCT, INCONVENIENCE, LOSS OR ANY OTHER DAMAGES, WHETHER DIRECT, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, WITHOUT LIMITATION, DAMAGE TO TAPES, RECORDS OR DISCS) RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARE LIMITED TO THE WARRANTY PERIOD SET FORTH ABOVE.

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JVC COMPANY OF AMERICA
DIVISION OF JVC AMERICAS CORP.

1700 Valley Road
Wayne, New Jersey 07470

REFURBISHED PRODUCTS CARRY A SEPARATE WARRANTY, THIS WARRANTY DOES NOT APPLY. FOR DETAILS OF REFURBISHED PRODUCT WARRANTY, PLEASE REFER TO THE REFURBISHED PRODUCT WARRANTY INFORMATION PACKAGED WITH EACH REFURBISHED PRODUCT.

For customer use:
Enter below the Model No. and Serial No. which is located either on the rear, bottom or side of the cabinet. Retain this information for future reference.

Model No.: _____ Serial No.: _____

Purchase date: _____ Name of dealer: _____

HM-HDS1U

JVC

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